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PUBLIC RELATIONS

ONE of the finest demonstrations of sportsmanship ever observed in Pennsylvania had its climax in Cameron County recently when a large caravan of big game hunters from the Pittsburgh area, headed by Allegheny County sportsmen, motored to the big woods in six buses and fifty-four private automobiles to join with their big woods comrades in improving food and habitat conditions for wildlife.

Armed with saws, axes and machetes, this large, enthusiastic group of city sportsmen braved one of the most inclement days of the year to work hand in hand with their rural friends in trimming apple trees and making other release cuttings to provide temporary browse for starving deer, and to improve conditions for other game.

Despite the weather handicap, approximately 3000 trees were trimmed and many release cuttings made, although the volunteers were hardly afield more than two or three hours. Not even the cold rain or sleet tended to dampen the ardor and determination of the cooperating sportsmen, even though they had to eat their "chow" army style.

Such a demonstration, a picture story and more detailed account of which appears of Page of this issue, proves that some sportsmen are fully aware of the problem affecting the deer herd and are interested and courageous enough to try to remedy, if only temporarily, the acute conditions which exist. This type of cooperation, if manifested by other sportsmen's organizations and individuals throughout the State, would result in far more benefits to the deer herd, as well as to small game, in a shorter time than the Game Commission, with its comparatively small field organization, could hope to bring about in several years of hard, gruelling work.

Antiquated though it may be, the old adage "Where there is union there is strength" is bound to prevail no matter what the odds may be. If sportsmen generally would take a leaf from the books of the Alleghenyans and the Cameronites, food conditions for deer and other wildlife could be improved immeasurably between now and the next hunting season.

The sponsor of this gigantic undertaking, Mr. William G. Munsell, Treasurer of the North Central Division of the Pennsylvania Federation of Sportsmen's Clubs, who resides at Emporium, deserves the highest commendation.

The program was extremely well planned and well managed from beginning to end. It is hoped that this type of cooperation—this type of public relations between urban and rural sportsmen—will be but the forerunner of many constructive programs, not only for the benefit of large and small game, but for the benefit of all our natural resources.

Public relations, powerful and far reaching, is fast becoming the keynote to the success of any long-time conservation program, and if this activity is stressed more it will bring about a far better understanding between all the agencies concerned. The Game Commission plans to emphasize and increase this field of endeavor greatly during the next few years. It is convinced, by having observed the many worthwhile projects now being carried on by sportsmen's associations, that a stronger bond of mutual cooperation is highly essential to a better understanding of the complex problems which confront the sportsman and the landowner. It is hoped that by placing more stress on this activity the enforcement problems which have heretofore been considered paramount will rapidly decline in importance. The Commission is encouraging its officers to observe still more closely the sportsmen and their problems and the landowners and their problems, to suggest ways and means of improving conditions locally, and to work with both parties toward that end.

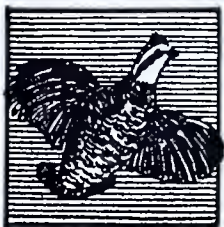
Probably one of the best examples of the type of public relations activities thus far engaged in either by the Commission or the sportsmen can be seen in the increasingly popular development of the farm-game program. Through it not only have thousands of acres of heretofore posted lands been opened to public shooting, but the Commission, the farmer, and the sportsman have been able to meet on a common ground and establish relations that are not only wholesome and friendly but remunerative to all parties concerned.

As a result of its reorganization and decentralized plan of activity, wherein more specially trained men will be available to work with sportsmen and landowners in developing and supporting a long-time program of sound game management, the Commission hopes to devise plans which will result in a better understanding of its problems. It is only by making a determined effort to see conditions as they actually exist and to help if only in a small way to remedy them; it is only by joining forces toward a common goal as did the urban and rural hunters of Allegheny and Cameron counties; it is only by meeting the landowner on common ground, not with your gun and dog in the fall, but at other times of the year; it is only by constructive criticism, rather than condemnation; it is only by a spirit of unselfishness, rather than selfishness; it is only by being an enthusiastic co-worker, rather than a kicker, that Pennsylvania can hope to maintain its enviable reputation as the greatest game state in the Union.

Public relations in the form of amiable, unselfish cooperation is the road to success, no matter what the undertaking may be, and unless this phase of our program is stressed from now on the sport we now enjoy, the wildlife we seek to perpetuate, yes, even our very friendships will soon have become an obituary to our own selfish interests.



Ducks along the Delaware, March 1939



To a Waterfowl



WHITHER, midst falling dew,
While glow the heavens with the last steps of day,
Far, through their rosy depths, dost thou pursue
Thy solitary way?

Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As, darkly painted on the crimson sky,
Thy figure floats along.

Seek'st thou the plashy brink
Of weedy lake, or marge of river wide,
Or where the rocking billows rise and sink
On the chafed ocean-side?

There is a Power whose care
Teaches thy way along that pathless coast,—
The desert and illimitable air,—
Lone wandering, but not lost.

All day thy wings have fanned
At that far height, the cold, thin atmosphere,
Yet stoop not, weary, to the welcome land,
Though the dark night is near.

And soon that toil shall end;
Soon shalt thou find a summer home, and rest,
And scream among thy fellows; reeds shall bend,
Soon, o'er thy sheltered nest.

Thou'rt gone, the abyss of heaven
Hath swallowed up thy form; yet, on my heart
Deeply hath sunk the lesson thou hast given,
And shall not soon depart.

He who, from zone to zone,
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

—William Cullen Bryant





THE Commission's Cooperative Farm-Game Program, adopted in 1936, was reviewed in the January, 1938, issue of the GAME NEWS. In a subsequent issue, March, 1938, Mr. McCachran summarized answers to questionnaires received from cooperating farm owners and tenants, as well as from sportsmen, after the open hunting season of 1937, concerning the adequacy of the plan. This present, or second review, contains detailed information and facts relative to certain aspects of the program not heretofore covered, and should be of even greater interest and value than the accounts of a year or so ago. The program, however, is less than three years old and consequently it is too early to show conclusive productive results. More definite information concerning its value will be obtained as the plan progresses further.

Space does not permit a detailed description of the plan on which the program is based, but it can be briefly explained that the plan is just what the name implies. The intent is to create a cooperative spirit among the parties concerned—farmers, sportsmen, and the Game Commission—whereby the interests of the respective groups are advanced, and at the same time protected in the most advantageous manner.

The hunting rights only, for the farms involved, are vested in the Game Commission for a period of five or more years, without curtailment of the farmers' customary activities. Small areas, agreeable to the farmer concerned, are set apart as game refuges wherein no one may hunt, and safety zones are posted around buildings to safeguard them and the occupants. That portion of a project area outside of the refuges and safety zones remains open to public hunting and certain game management practices, agreeable to the farmer, are conducted to improve game conditions.

The Original Plan Appears Good

It is gratifying to report that all indications point toward successful fulfillment of the Commission's desire to improve hunting conditions in this State with respect to both farmers and sportsmen. Having stood the test of hunting pressure during three open seasons without revealing serious or insurmountable difficulties, the program's future appears quite bright. It seems appropriate, however, to repeat what has previously been said, namely that no claim is made that this plan is a panacea for all ills of the farmer-sportsman problem. Nevertheless, if the plan continues to function as smoothly as it has to date it may become the basis of a more inclusive Statewide program for farm-game shooting. Pennsylvania prefers a farmer-sportsman cooperative of a democratic nature, one lacking the permit control feature which seems to be annoying to farmers and sportsmen alike, expensive to operate, and quite likely to result in favoritism especially in populous territory.

No radical changes have been made in the original plan, nor is there yet any indication that any of its basic features are unsound. Many suggestions have been offered from numerous sources intended to im-

The Pennsylvania

A Review of the Plan and How it has Progressed

By W. GARD. CONKLIN

prove the general plan, or the program as a whole, some of which are of a practical nature and do not involve radical changes in the plan on which the program is based. The present plan is little changed from that as originally adopted in 1936.

Future Development Problems

The program has evidently been laid on a firm foundation, and now the structure itself is being carefully and substantially developed. No one associated with the development of the program considers that it is even nearing completion; much remains to be done. It will not build itself; nor will it maintain itself. Sportsmen, farmers and the personnel of the Commission must continue cooperating closely, one with the other, year in and year out, to keep it moving and to prevent the structure's collapse. If sportsmen and farmers will really work together they will find a common understanding of the unnecessarily troublesome problem which has confronted them for so many years. Personal contact will do wonders in bringing about a sympathetic understanding of the wishes and rights of each. Sportsmen should invite farmers to their meetings, offer them free membership in their associations, and make the meetings attractive to them. They should visit farmers and learn more about the economic and other problems confronting them day by day. By so doing a healthy farmer-sportsman relationship most assuredly will develop.

The decidedly difficult task of developing and managing the project areas, in such a way as to satisfy both cooperating farmers and local sportsmen, now confronts the Division of Game Land Management and field officers concerned. A mediocre crop of game on the respective cooperative areas would, of course, be disappointing to sportsmen; but, on the other hand, too large a game crop or excessive hunting would be seriously objectionable to farmers. The objective must be to strike a happy medium, satisfying all concerned insofar as this may be possible.

New Provisions Adopted

Until recently these cooperative projects could be established only in 21 counties of the State, but during the past year or so sportsmen from other sections asked that their counties be included. Due to the expense involved, the Commission can not possibly authorize setting up the projects throughout the State. The justice of requests from certain of the more intensively tilled and more thickly populated counties was recognized, however, and the Commission at its meeting January 11, 1939, agreed to add six counties. The twenty-seven counties in which Cooperative Farm-Game Projects may now be established are:

Southeastern Counties		Southwestern and Western Counties	
Adams*	Lancaster	Allegheny	Greene
Berks	Lebanon	Armstrong	Indiana
Bucks	Lehigh	Beaver	Lawrence
Chester	Montgomery	Butler	Mercer*
Cumberland*	Northampton	Crawford*	Westmoreland
Dauphin (south- ern half)	Philadelphia	Erie*	Washington
Delaware	York*	Fayette	

* New counties recently added.

Philadelphia County really should not be included in the list of counties in which the projects are applicable since it contains no farm acreage suitable for game management purposes. Likewise, Delaware

Cooperative Farm-Game Program

County might just as well be excluded as there is little likelihood of obtaining a project area of appropriate size in it.

The Commission at its recent meeting also agreed to a policy of limiting the size of a project to 4,000 contiguous acres, and continued the previous minimum of 300 acres. The Commission decided also that efforts should be continued to secure estimates of the number of hunter-days enjoyed on project areas, as well as estimates of the game taken from them annually. It was likewise the consensus of opinion that co-operating farmers should be induced to raise as many pheasants as possible from eggs furnished by the Commission, for which they will be paid 50c for each bird raised to 6 weeks of age and in good condition.

Progress

The progress of the program is clearly shown in the following tabulation. In it is indicated the number of projects, and the number of farms and acreage involved, for which agreements were secured during each of the three successive years, and those completely established during each year.

Calendar Year	Projects For Which Agreements Were Secured During Each Year			Projects Completely Established During Each Year		
	Number of Projects	Number of Farms Involved	Total Acreage	Number of Projects	Number of Farms Involved	Total Acreage
1936	2	36	3,811.7	1	14	1,899.8
1937	31	384	31,189.4	26	406	29,699.3
1938	26	488	39,578.6	31	476	42,226.0
Totals	59	908	74,579.7	58	896	73,825.1

The 59 projects, for which agreements had been secured by the latter part of the year 1938, were distributed through 18 of the 21 counties where their establishment was at that time permissible. Counties not represented were Beaver, Philadelphia, and Delaware.

In addition to the 31 projects signed up during 1937, considerable progress had been made on one of 4,500 acres in Washington County. This was dropped because, according to reports, the farmers concerned were adversely influenced by a local group of hunters, evidently from selfish motives. Another project of 3,500 acres in Chester County, for which agreements had been secured, was dropped when it developed that the area was within territory commonly used for fox hunting with packs of hounds.

Agreements for the first few projects were secured almost solely through the energetic efforts of Messrs. A. W. Rossiter, Adv. Land Acq. Asst., and H. D. Carroll, Adv. Game Protector. Later, many were secured through the cooperation of Game Protectors, and finally with the aid of sportsmen's associations and farmers. This indicates how the program expanded through cooperation and interest of others as more persons gained knowledge of the plan's provisions and benefits. Sixteen of the projects in existence prior to 1938 were enlarged that year primarily upon request of adjoining landowners to become co-operators after observing how well the plan functioned under hunting pressure.

Survey of Project Areas

An intensive survey was made during the open hunting season of 1937 of the 27 projects completely established at that time, and fully reported on in the January and March, 1938, issues of the GAME NEWS.

A somewhat similar survey was made during the hunting season of 1938. After the close of the season field officers submitted estimates of the number of hunters on each project each day, the game taken from each project during the season, and other information relative to the opinions and conduct of hunters and the opinions of cooperators. The data collected, even though part of it was based on estimates, is decidedly interesting and provides much information of real value. The

estimates of game killed and hunter-days will be summarized later on in this article. Other information collected in 1938 is here briefly given.

Game Protectors and Deputies had previously been given definite instructions as to their duties, stressing the necessity of developing lasting friendly relations between hunters and farmers. They took every possible precaution to protect farmers and farm property against willful or careless acts of hunters. All areas were well posted with warning signs, and very few instances of willful violations were reported.

Concentration of Hunters

Eight of the project areas, comprising twelve farms containing a total of only 1,487 acres, were reported over-crowded and hard hunted the first day of the open season. Vigorous complaints to this effect were made by several of the cooperators, an unfortunate condition exceedingly difficult to overcome. The probable reason was the mistaken impression that the project areas had been heavily stocked just prior to the opening of the season. After the first day, however, no project area was reported encumbered with too many hunters at any one time, although the hunting pressure naturally increased on Saturdays and holidays. In most instances sportsmen heeded the request of the Commission to guard against over-crowding, or of concentrating on spots where an abundance of game might be expected. This type of complaint may increase in future years, and may develop into a most difficult problem as the supply of game increases on the project areas.

The solution rests largely in the hands of hunters themselves. If they persist in over-crowding project areas and fail to spread out when requested to do so by officers in charge, widespread discontent among cooperators is likely to result. This might then require the installation of a permit control system, for otherwise the success of the program would be seriously jeopardized. If hunters wish to avoid the inconvenience of being compelled to secure a permit to hunt, and the all too frequent disappointment in finding that all permits for the day had been issued, they must prevent over-crowding.

Game Populations

In general, the supply of game was reasonably abundant on most of the project areas, but, according to reports, was somewhat wilder than last year. The possible explanation for this is that about 50% of the farms were previously closed to hunting and game was less fearful of human beings than is the case after experiencing hunting pressure.

Deputies reported a sufficient supply of pheasants on 27 project areas, and of rabbits on 30 of the areas at the opening of the 1938 season, with an insufficient supply of all species on the remaining

Turn Page





Aerial View of a Typical Cooperative Farm-Game Project

The Pennsylvania Cooperative Farm-Game Program

areas. An inadequate supply of quail was reported on all project areas.

According to reports a sufficient number of rabbits remained on 28 of the project areas, and of pheasants on 26 of the areas at the end of the season. Inadequate breeding stock remained on the other areas, however. None of the areas apparently support anything like the number of quail they should.

Some hunters evidently gained the impression that a scarcity of game existed, but overlooked the fact that this year it was possible to make a fair kill almost any day of the season, whereas good hunting last year was confined largely to the first day or so.

Cooperators' Complaints

Complaints were registered by 15 of the 896 cooperators, less than 2% of the total number. However, it is evident that all but a very few are heartily in accord with the program's provisions and intentions, since this year it was more widely accepted and endorsed than heretofore. The character and number of complaints made by cooperators in 1938 were much the same as last year, but very few of the cases reported were revealed as willful violations.

Sportsmen's Opinion and Conduct

Organized sportsmen, especially in counties where the projects had been authorized, are practically unanimous in their support of the program. Associations are beginning actively to cooperate in developing new projects, or in the expansion of those existing. There is scarcely a project now established in which some club or association is not intimately and actively interested, largely because its membership was instrumental at least to some extent in its promotion.

A secretary of one sportsmen's association reported that shortly after his group became active in the farm-game program, more interest and enthusiasm in its meetings became more apparent. Membership increased and the association's attitude toward game management in general became more favorable and unified.

A few sportsmen were somewhat critical because they claimed insufficient information was published concerning the exact location of project areas. Had the Commission widely publicized exact locations, over-crowding and over-shooting, especially in the beginning, probably could not have been avoided. It was somewhat amusing to learn that some hunters mistook the Commission's "Cooperation Wins" posters for "No Trespass" signs, and passed by a cooperative area seeking "open" territory on which to hunt.

Deputies, with one exception, reported that hunters conducted themselves in a sportsmen-like manner while on the projects. The one exception reported hunters' conduct as "only fair." This being the case, it is evident that the few violations of law were unintentional. Prosecutions were almost nil.

Since 44 deputies reported that adjoining farmers were now interested in becoming cooperators, it is evident that the conduct of hunters was good, for otherwise adverse reports would have reached neighboring farmers.

Worthy of note is the fact that not a single hunting accident was reported on any of the 58 projects. This indicates greater care in the use of firearms than was the case elsewhere.

Some of the Game Restoration Efforts Conducted

The Commission's officers have taken advantage of every available opportunity to explain game management practices to cooperating farmers and local sportsmen, attempting to secure their interest and support toward improving living conditions for game as well as song and insectivorous birds. It is the customary practice to offer employment to cooperating farmers wherever work of any kind is to be done, thus affording them an opportunity to earn a little extra money.

Habitat Improvements

One practice stressed is the desirability of permitting brush, vine, and shrub growth to remain in gullies, woodlots, and along fences where farming operations will not be seriously interfered with. The use of flushing bars has been strongly urged, and in many instances equipment was furnished farmers and used with good results.

Retreats and feeding shelters have been constructed at favorable locations, and the interest of farm boys in distributing winter food was sought with varying degrees of success,

Small strips of grain were either planted or purchased from farmers near good cover on certain of the project areas, especially those fully established by the end of the year 1937. Comparatively little of this habitat improvement effort was possible on projects secured in 1938 since arrangements for them were completed too late. Farmers were urged to let corn stalks stand, or if cut to leave several shocks remain in the fields for cover, and to leave undeveloped ears for food.

Grain plots, both planted and purchased, during 1938 in the southeastern counties averaged about one acre to each 300 project acres. Comparatively few projects in the southwestern counties were provided grain plots in 1938 since no game technician was available in that section to arrange for them. It is now planned to provide about one grain plot, 1/16 to 1/4 acre in size, for each 150 project-acres and, always near good cover.

Increasing the Game Population

Farmers are also given the opportunity of raising pheasants from eggs furnished by the Commission, for which they are paid 50 cents per head for each bird raised to six weeks of age and in good condition. Very few have thus far availed themselves of this opportunity, evidenced by the fact that only 50 birds were raised in 1937, and 75 in 1938.

On 30 of the 33 projects established by the end of 1937, comprising 27,211 acres, a total of 8,742 pheasants were released, most of which were hens. In addition 370 quail were stocked on 11 of the 33 projects. In 1938 the total pheasant release was 2,891, of which 1,214 were hens. Additional stocking included 2,126 quail, 4,210 rabbits, and 133 squirrels.

The reason for heavy stocking of the protected hen pheasants in 1937 was to build up the game population as rapidly as possible without, at the beginning, making the cooperative areas overly attractive to hunters.

The right to trap predators from refuges is offered farmers or farm residents, but here again very few have indicated any interest.

These are but a few of the management practices, other than protection, exercised on project areas. Each area presents its own individual problems, which are studied, analyzed and acted on by the Commission's officers to the best advantage of all concerned. Every effort is made to show farmers how they can benefit by accepting suggested practices without interfering with their farming operations. On the other hand should pheasants, for instance, become too numerous and destructive, the Commission will take such steps as may be required to alleviate the trouble.

Sportsmen Accommodated and Game Taken Season of 1938

Two of the many important criterions of success of a program such as this are the shootable surplus of game which becomes available on managed areas for sportsmen to secure, and the number of sportsmen the area will accommodate. Unfortunately no figures are available for the 1937 hunting season. Prior to the 1938 season all deputies assigned to the projects were instructed to make daily estimates of the kill and of hunters observed on the areas.

Each project was separately reported on by the officer in charge at the end of the season and their estimates were checked by county and division officers, after which the data were compiled in the Harrisburg office. The information revealed is interesting and quite enlightening.

All indications are that the estimates were conscientiously made, with no intention on the part of anyone to exaggerate. If the estimates are higher than actual, it reflects an error of judgment, entirely unintentional, something which is always possible where actual counts are not made. The honesty of reports is not to be questioned, even though it is recognized that some persons scanning the data may look on the results with a certain degree of skepticism.

Hunter-Days

Officers in charge did not record the number of hours each man hunted, so in compiling the reports there was no other alternative than to consider that each hunter observed represented a man-day hunt, even though some of them may have been on the cooperative area only an hour or so.

Estimates indicate that a total of 41,534 hunter-days were enjoyed on the 58 projects, comprising 73,825 acres in 18 counties, during the 1938 open season. According to the reports, a hunter averaged two

(Continued on page 30)

THE FALL FOODS OF

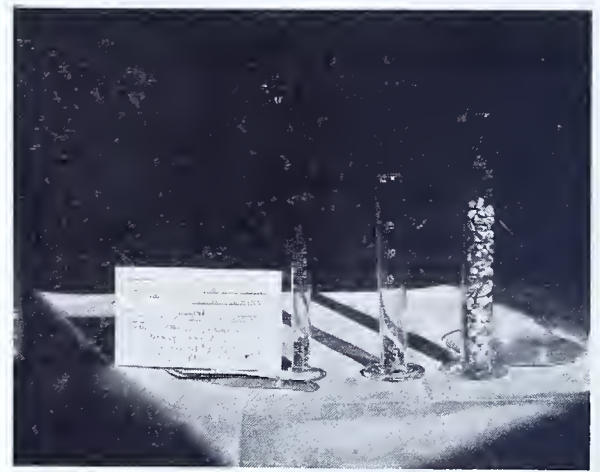


Analyzing and recording crop contents.

By LOGAN J. BENNETT *

and

P. F. ENGLISH **



Results of Crop Analyses.

EDITOR'S NOTE: About one year ago, the Game Commission, the Pennsylvania State College, and the U. S. Bureau of Biological Survey inaugurated a cooperative wildlife research and demonstration program, which will not only aid the Commission in its game management program but enable the Extension Service at State College to disseminate such information to landowners throughout the Commonwealth.

This article is one of the first reports on work carried out under that program. We expect to present in the GAME NEWS from time to time reports on the findings of this organization.

PRIOR to the shooting season of 1938, arrangements were made with game protectors and sportsmen in Pennsylvania to obtain the crops of ringneck pheasants (*Phasianus colchicus torquatus*) and bobwhites (*Colinus virginianus virginianus*) killed during the hunting season. These crops were sent in to the Pennsylvania Cooperative Wildlife Research Unit for analyses, so that information would be obtained on what foods these birds preferred. It was thought that the information derived would indicate to the Game Commission and sportsmen what was needed to provide better food conditions for these fine game birds.

A total of 423 pheasant and 61 bobwhite crops were sent in by cooperators from October 28, 1938, to November 26, 1938 (table 1). The analyses, as discussed in this article, pertain only to the birds shot during the hunting season and should represent a good picture of the fall food habits of these species.

A large proportion of the crops were sent in from some of the best pheasant and quail counties. The analyses should give us some indication as to why certain counties have better pheasant or quail ranges than others. With this information available, perhaps it will make possible the improvement of pheasant and quail ranges in areas where these birds have not yet thrived.

Method of Analyzing Crops

Each crop was opened and the respective food items segregated as to species. The items of each species were then counted and measured dry weight in cubic centimeters. The proportion of each kind of food was recorded on a card for each crop. The food items were identified by comparing them with samples of known seeds, fruits, leaves, and insects.

Results of Pheasant Analyses

There were 56 known species of vegetable foods and 6 groups of insects and other animals found in the 423 pheasant crops (table 2). Vegetable matter occurred 1,055 times, animal matter was recorded 126 times, and gravel occurred 69 times. Thirty-two of the crops were empty.

Method of Recording Pheasant Foods

Ringneck Pheasant	No. 234
Lehigh Co., Pa.	Lower Macungie Twp.
11/1/38, 4:00 P.M.	
J. Kurshner	No. 1
Condition of Stomach	Absent Crop 50% full
Percentage Animal Matter	0 Vegetables 100 Gravel 0
Contents:	
Seeds:	
Corn, 66 grains + frags.	= 22 cc = 100%
Lesser ragweed, 22 seeds	..... = trace
Wheat, 2 grains	..... = trace
Smartweed, 1 seed	..... = trace

Bennett & English. 1/16/39

FIGURE 1.—Showing method of recording data on foods of pheasants.

Corn was by far the most important item taken by the pheasants. Fifty-four percent of the total volume of all crop contents consisted of corn grains. The remaining 46 percent was made up of the other 55 species of plants, 6 groups of animals, and gravel. The five highest ranking food species recorded from the crops are shown in Table 3.

Table 2 shows the species eaten and the times each occurred. This table, in general, gives a good idea as to the importance of each food, but it does not give the true value as to volume eaten. In Table 2, smartweed ranks third place, but the seeds are small and from the volume measure it rated far down the list as compared with the items listed in Table 3. Unknown seeds occupy fifth place in occurrence, but from volume value they rate very low, as they represented only traces in most instances.

Results of Bobwhite Analyses

The crops of the 61 bobwhite crops contained 21 known species of vegetable food, 5 groups of insects, and gravel. Vegetable matter occurred 132 times; animal matter, 12 times; and gravel, 6 times (table 4). Seven of the 61 crops were empty.

Lesser ragweed was the most important food taken by the bobwhite. Twenty-five percent of the total volume of all crops was this prolific weed. Corn was a close second, representing 21 percent of the total volume. The five highest ranking food species recorded from the crops are shown in Table 5.

¹ Paper No. 2 from the Pennsylvania Cooperative Wildlife Research Unit. The Pennsylvania State College and the Pennsylvania Game Commission, cooperating with the U. S. Bureau of Biological Survey.

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* United States Bureau of Biological Survey.

** Department of Zoology and Entomology The Pennsylvania State College.

RINGNECK PHEASANTS AND BOBWHITES

TABLE 1.—Counties from which crops were sent in, October 28 to November 26, 1938

County	Pheasants	Bobwhites
Adams	5	...
Allegheny	6	3
Armstrong	9	3
Berks	22	...
Bradford	5	...
Bucks	22	...
Butler	3	...
Cambria	5	...
Carbon	10	...
Centre	11	...
Chester	19	6
Clearfield	1	1
Columbia	14	...
Crawford	...	3
Cumberland	9	...
Dauphin	12	...
Delaware	8	2
Elk	6	...
Erie	3	...
Fayette	7	2
Franklin	1	...
Fulton	...	3
Greene	4	9
Huntingdon	2	...
Indiana	6	5
Jefferson	3	3
Lackawanna	2	...
Lancaster	33	3
Lawrence	10	2
Lebanon	9	...
Lehigh	33	1
Luzerne	4	...
Mercer	2	3
Montgomery	45	...
Montour	8	...
Northampton	5	...
Northumberland	7	...
Philadelphia	1	...
Pike	1	...
Schuylkill	6	...
Somerset	1	...
Sullivan	3	...
Susquehanna	6	...
Tioga	6	...
Union	1	...
Washington	15	9
Westmoreland	27	3
Wyoming	5	...
TOTAL	423	61

Conclusions and Recommendations

By studying the above data on the fall food habits of the pheasant and bobwhite, some interesting facts are brought out. Seventy-four percent of the volume of the food in the pheasant crops consisted of crop seeds (corn and attendant weed seeds, including ragweed and foxtail). Eighty-one percent of the volume of food in the bobwhite crops consisted of the same class of food (table 6). Sixteen percent of the pheasant food and 11 percent of the bobwhite food consisted of noncrop seeds and fruits from grape, dogwood, sourdock, and other plants. Animal matter, consisting mostly of grasshoppers, constituted 6 percent of the pheasant food and 5 percent of the bobwhite food. The volume of noncrop seeds and animal matter found in the crops of both pheasants and bobwhites was small. These foods, however, probably aid greatly in providing a balanced diet.

The food habits of the pheasant, as determined in this study, correlate very closely with the food habits of the bird in other States. In Wisconsin, Gigstead (1937) found that 54 percent of the food taken

in November was made up of corn and lesser ragweed. Studies made by Severin (1933) in South Dakota indicated that 50 percent of the pheasant crops examined during October and November contained corn. Dalke (1937) found that 74 percent of the year's food of Michigan pheasants was made up of corn, wheat, barley, oats, and buckwheat. During November he determined that Michigan birds consumed 40.6

TABLE 2.—Food in 423 pheasant crops, listed in order of occurrence

Kind of food	Times occurring
VEGETABLE:	
Corn (<i>Zea mays</i>)	253
Lesser ragweed (<i>Ambrosia artemisiifolia</i>)	169
Smartweed (<i>Polygonum</i> spp.)	81
Foxtail grass (<i>Setaria glauca</i>)	63
Ground cherry (<i>Physalis</i> spp.)	45
Wild grapes (<i>Vitis</i> spp.)	31
Wheat (<i>Triticum aestivum</i>)	30
Buckwheat (<i>Fagopyrum esculentum</i>)	27
Wild cherry (<i>Prunus</i> spp.)	23
Green foxtail (<i>Setaria viridis</i>)	19
Oats (<i>Avena sativa</i>)	19
Poke weed (<i>Phytolacca decandra</i>)	19
Sticktight (<i>Bidens</i> spp.)	18
Skunk cabbage (<i>Symplocarpus foetidus</i>)	16
Flowering dogwood (<i>Cornus florida</i>)	14
Acorns (<i>Quercus</i> spp.)	11
Greater ragweed (<i>Ambrosia trifida</i>)	11
Knotweed (<i>Polygonum Convolvulus</i>)	11
Unknown leaves	11
Haws (<i>Crataegus</i> spp.)	10
Poison ivy (<i>Rhus Toxicodendron</i>)	10
Black locust (<i>Robinia Pseudo-Acacia</i>)	7
Clover leaves (<i>Melilotus</i> spp.)	7
Elderberry (<i>Sambucus</i> spp.)	7
Pigweed (<i>Amaranthus retroflexus</i>)	7
Lamb's quarter (<i>Chenopodium album</i>)	6
Sorghum (<i>Holcus</i> spp.)	6
Bean (<i>Phaseolus</i> spp.)	5
Rose (<i>Rosa</i> spp.)	5
Sweet clover (<i>Melilotus alba</i>)	5
White campion (<i>Lychnis alba</i>)	5
Sourdock (<i>Rumex crispus</i>)	3
Spice bush (<i>Benzoin aestivale</i>)	3
Sunflower (<i>Helianthus annuus</i>)	3
Viburnum (<i>Viburnum</i> spp.)	3
Apple (<i>Pyrus</i> spp.)	2
Barnyard grass (<i>Echinochloa crusgalli</i>)	2
Beggar's lice (<i>Desmodium</i> spp.)	2
Black alder (<i>Ilex verticillata</i>)	2
Buds	2
Burdock (<i>Arctium minus</i>)	2
Canary grass (<i>Phalaris arundinacea</i>)	2
White birch (<i>Betula alba</i>)	2
Smooth sumac (<i>Rhus glabra</i>)	2
Soy beans (<i>Soya max</i>)	2
Unknown roots	2
Bur cucumber (<i>Sicyos angulatus</i>)	1
Carrion flower (<i>Smilax herbacea</i>)	1
Sedge (<i>Carex</i> sp.)	1
Corn cockle (<i>Agrostemma Githago</i>)	1
Duck wheat (<i>Fagopyrum tataricum</i>)	1
Grass (Unknown sp.)	1
Grass (<i>Panicum</i> sp.)	1
Horse gentian (<i>Triosteum perfoliatum</i>)	1
Milkweed (<i>Asclepius</i> sp.)	1
Millet (domestic)	1
Stick seed (<i>Lappula</i> sp.)	1
Sumac (<i>Rhus</i> sp.)	1
Unidentified tubers	1
Unknown seeds	57

(Continued on page 29)

ECONOMIC SURVEY AND GENERAL INVENTORY OF NATIVE PENNSYLVANIA FUR-BEARERS*

By DOUGLAS WADE



Every farmer boy likes to trap.

EDITOR'S NOTE: The following brief article is a progress report of one of the research projects now being undertaken jointly by the Game Commission, the U. S. Biological Survey and Pennsylvania State College, under a Cooperative Research Program. It embraces a study of the fur-bearing animals of Snyder County. Similar studies will ultimately be made in certain other counties, so that when completed a representative cross-section of the Commonwealth's fur industry will be shown. Since August, 1938, the Game Commission has been studying the fur-bearing animals of the State and their economic worth. This research is set up and partially financed through the Federal Aid provided by the Wildlife Restoration Act.

THE information gathered from this study is designed to enable the Commission to determine with accuracy the true economic status of the native fur-bearing animals of the Commonwealth. It should also give some indication of their relative abundance and of the administrative steps which may result in sounder management of them. Finally, it should point out phases of the fur-bearing animal problem which may be in need of further study.

The objectives, as indicated, are divided into three aspects—economic, inventory, and special. The purpose of the economic aspect is to gain information on the number of Pennsylvania citizens who annually engage in trapping, the income they derive and the expenditures they make in connection with their trapping activities, and other related data. The inventory details should reveal the relative status of the various fur-bearing animal populations, while the special aspect of the survey will help to determine the influence of the Pennsylvania Bounty System on the activities of the trappers. Work on the last two aspects is not sufficiently far advanced to be included in this report.

The economic data are being gathered through personal contact with all residents and fur-dealers in Snyder County which was selected as a representative sample area. The information is entered on standardized sheets at the time of, or immediately following, the interviews. This work is combined with studies of fur animal populations and ecology on portions of the project area and other selected sites, such as Pymatuning Lake.

The main sample area, Snyder County, is centrally located in Pennsylvania, has a population of over 18,500 people and an area of 311 square miles, which is approximately 0.19% of the total population and 0.68% of the total area of the State. In general, the soils, topography, and land-use are characteristic of central Pennsylvania, 70% of the land being farmed and the rest forested or cut-over. If we include the Susquehanna River, which bounds the eastern side of the county, there are 445 miles of stream within the county.

To date, over a 1,000 families in Snyder County have been queried concerning their trapping activities and the status of fur-bearing animals. The following is a breakdown of data sheets for 850 rural families:

Total number of trappers in the 850 families	310
Average size of the family	5.3
Trappers to family ratio	1:2.7
Average age of trapper	16.5
Trappers setting on their own or adjacent land	61%
Trappers possessing a hunting license (*)	31%
Persons legally trapping without license (*)	0.53%
Average number of traps per trapper	24
Average catch per trapper	7
Trappers selling to local fur-buyers	82%
Trappers selling to mail order or fur-houses	18%

Trapping money used as

Primary income	0.00%
Supplementary income	0.21%
Incidental income	0.79%

Trappers setting for and catching

Skunk	39%
Muskrat	28%
Opossum	15%
Weasel	11%
Mink	2.8%
Fox (mostly Gray)	2.2%
Raccoon	1.8%

(*) Any person under the age of 18 years may trap for fur-bearing animals or predators without securing a license; however, persons over 18 are required to have a license to trap on lands controlled by others.

Although some fur-bearing animals are difficult to trap, a true index of their relative abundance may well be represented by the percentage of trappers catching them. It will later be possible to check these indices through a study of the fur dealers' reports which pertain to the sample area.

Because of the current status of the problem, it is inadvisable to attempt further analysis of the information gained up to this time. A study of the sample data sheet, presented herewith, will give the reader an idea of the scope of information being sought. When completed, this project should represent a basic study of importance.

* From a paper presented at the Fourth North American Wildlife Conference, Detroit, Michigan, February, 15 to 17.

IMPORTANCE OF THE TRAPPER

By S. V. SEDLAK

PENNSYLVANIA, reputed as a great game state and nationally-known as a leader in game conservation, is lacking something.

For a score of years the writer has been studying its game laws; and in more recent years this study has been accentuated primarily because of the fact that the guiding powers of game management have been in the hands of a highly organized body of influential hunters, interested in the welfare of game but apparently wanting in the knowledge of sound conservation principles.

Gentlemen, this is not intended to be a tale of woe, and not, by any means, a subject of criticism; and that you may not misinterpret the purpose of this narration, please be informed that its objective is to clarify briefly the importance of the trapper, his knowledge and his relationship in game conservation matters. Until now, he has been a rather inconspicuous figure in our ranks, little heard of and from, and much disregarded.

Permit me to tell you that the trapper fosters a wealth of valuable information, the "hub" of radiation of interrelationship of wild animals. But before I go into detail, and to only a very modified form at that, because space would not permit a thorough combination of all the facts, I desire to make a dividing line on the meaning of "trapper." The trapper can be divided into three very separate and distinct classes:

(1) Embryonic: The most common of these are the schoolboy and the farmer. They belong in the embryonic stage of the game, and may or do possess a common knowledge of trapping, and may or do succeed in trapping the ordinary fur-bearing animals within a short radius of their starting point, and under favorable conditions.

(2) Advanced: In the second group we have the trappers who, by virtue of desire to learn, have advanced in this game of fascination. They have acquired a fairly good knowledge of fur-bearing animal life and they know how to apply common sense in using the steel trap. In this aggregation, however, again a subdivision is necessary because here is where a man makes or breaks himself, with all that the future has in store for him. (a) If the individual is of the type who is characterized with self-respect, his aim will be to play fair with himself, with his fellow-men and with the wild animal life; but (b) unfortunately, there is many a one who chooses the course of disrespect, no regard for even his own self, none for his trapper-friends and considerably less than none for the wild creatures of the forest.

(3) Naturalists: The third group of trappers are those who have reached the topmost rank of knowledge and understanding of wildlife, and they may be aptly termed "naturalists." These need not necessarily know all that is worth knowing about wild animal life, but they do possess an education which is equivalent to a completed college course; and they can look back—and down into the pages of time, and tell you things about wildlife that even the best of hunters know nothing about.

And so, to get back on the track, I desire to make it known through this medium that just one year ago several men of the third group of

trappers banded together and the result is an organization known as the Pennsylvania Trappers Association. At this writing its membership is less than 200; not all third group trappers. Its aim: To create a better understanding between hunter and trapper. With your co-operation, greater strides can be made toward a more perfect, a more successful system of wildlife management.

Its desire: To have an enrollment of all Pennsylvanians who devote time to trapping fur-bearing animals, with a view of attaining a more mutual agreement of opinion.

And then, to begin with, four essential measures are requested, as follows:

1. Trappers license. To get a more comprehensive idea of the extent of use of steel traps. The monies so derived to be a separate fund of the Game Fund for use to better trapping conditions, and similar.

2. Elimination of spring and summer trapping. To stop the wasteful practice of taking thousands of dollars worth of valueless furs, and in addition the several thousands of small game animals that get tangled up in summer operations usually adhered to by the trappers of group 2-B as herein described.

3. Revision of the bounty system. To conform with a new set-up of trapping dates, and only as a continued incentive to keep under control our so-called "vermin," primarily, the weasel, the most destructive creature of small game, while realizing the maximum worth of the fur itself.

4. Legalize the trapping of raccoons throughout the state. To set it on par with the raccoon hunters' privilege. This, in itself, is an order which may bring a bellowing opposition from the raccoon hunters. Be patient, gentlemen! I know your side of the argument; I know it only too well.

I maintain that the trapper is the "hub," an important factor in game management affairs. Render to him his due share of justice, and you will make him your ally.

Requests number three and four can be enlarged on considerably, and each does merit an outline in detail, and because of that fact it is my intention to prepare for your approval more separated information as it applies to the trapper. But the subject of fur-bearing animals and trapping is so broad in scope that to deal with it properly it would necessitate a series of articles of apportionment.

The fur business is a big business, and at least 95 per cent of it is dependent on the wild resources. Pennsylvania's trapping grounds alone produce from \$500,000 to \$1,000,000 worth of raw furs annually. The variation is due to any one or a combination of several determining factors.

It is not too late, however, to recognize the importance of a united effort, to formulate a more constructive plan of game conservation and fur conservation.



Corel Gee, Wellsboro, one of Pennsylvania's outstanding trappers with part of his 1938 catch.



Mrs. M. M. Deiffenbach, Colley, Pa., one of Pennsylvania's foremost women trappers, with her 1938 take.

SOCIAL SECURITY IN CONSERVATION

By RAYMOND S. SPEARS

IN the autumn of 1901 I walked across Pennsylvania, carrying a camping outfit on my back, and stopping where night overtook me. I entered the state at Sayre, in Bradford county, and cut the southeastern part of Tioga county, going down Little Pine creek valley across Lycoming, Clinton, Center, and Blair (by Hollidaysburg), counties, thence south through Bedford county into Cumberland, Maryland. From there I went into southwestern Virginia, bought a skiff and continued down the Little Holston, Big Holston and Tennessee to northern Alabama.

This was in the period when the market-hunting era had shot itself out of existence. Fur was almost at its lowest ebb. The lands we now call "marginal" were claiming, through misunderstanding of their use, thousands of lives unprofitably lived and unhappily managed. My interests were in "the back country". I talked with hunters, trappers, loggers, and farmers who in considerable measure (though they did not realize it) depended principally on wild berries, nuts, roots, game, fur, non-game meat and fish for several months of their living each year.

I met, for example, a turtler, a man who with prongs, net and skill gathered land terrapin and fresh water turtles by the dozens and sold them to clubs, hotels, and commission merchants, making from \$30 to \$60 a week. At Columbia Crossroads, a lank Hill Billy came into a little hotel with an old Kentucky rifle (converted to a percussion cap) and talked of foxes, gray squirrels and pheasants (ruffed grouse). And in a log-camp where the last "virgin hemlocks" had been cut, where I worked a few days chuting bark down the mountain slope in V-troughs, on old, whiskery trapper tried to persuade me to join him. He said he knew where we could catch \$200 worth!

I talked with scores of woodsmen, trappers, hunters, small-time farmers. I saw my first quail, found a few cottontails, met fox hunters and deer hunters. Here and there were black and gray squirrels. Where I crossed or followed streams, or came to mountain backs or woods, I searched for tracks and signs. In my own country, the Adirondacks of New York, we had a good many deer hunters who came from Pennsylvania—one such "party" of six (market hunters) brought a bird dog to the West Canada creek in the 1880's and shot 106 deer that the dog pointed.

The wild turkeys of the Alleghenies in the early days were said to weigh up to 40 lbs, and could fly only a quarter of a mile. Wild turkeys, I observed, would fly five or six miles from one ridge to another. I saw five of the birds below New Bedford that left a hardwood and flew out of sight above a valley a thousand feet or so deep.

Trappers caught \$80 to \$200 worth of fur in a winter. They began in late October, and carried over into March or April. They could get some meat but it was scarce, and they had to fill out with salt-pork. Having an experimental habit, I tried several large owls—broiled, boiled, and fried—yearling crows, red squirrels, and black-birds. As a non-resident I left the game alone, except for three or

four cottontails. I met a number of preserve and volunteer special wardens. These were, in a way, the beginning of the new era in Pennsylvania's wildlife policy.

I was told that there were fewer than 4,000 deer, all told, running wild in Pennsylvania. There were "some bears left". "Grouse are scarce and wild." I could see that mink, muskrat, skunk, otter, pekan (fisher) were "ter'ble skurce". Apparently wildlife was done for.

Since that stroll, notebook in hand, of a thousand miles on the back roads and cross-lots, I have watched the course of Conservation in Pennsylvania. I took part in the long-drawn out effort to establish wildlife protection in New York. We had reached a low ebb in New York in 1901, and for years we seemed to work without avail on behalf of the wild creatures. We were called "sentimentalists", and much worse names because we sought laws against catching fingerling trout, shooting baby ruffed grouse, hunting deer with dogs, jack-lighting, crusting, off season kills, etc. Once I saw eleven deer killed by crusters in an Adirondack swamp—men who thus were destroying their own hope of having fresh meat during the hard, gameless years to come.

After Conservation came to Pennsylvania, I saw more fur tracks along three brooks where I stopped (in 1927) than I saw on the whole walking trip across that state. I did not grasp the significance of this, however, till several years later, when I drove in an automobile down the route I had gone on foot. I was better acquainted with the broad aspects, however, than on my first trip.

In 1930, however, I was asked—to my surprise—to undertake the task of Conservation Director of the American Trappers Association. My articles, department work, slants in wildcraft magazines led to this. What could I say about trappers—or for them? I had answered letters from at least 15,000 trappers from all over the United States, Canada and Alaska. However, when I sized the situation up I realized instantly that professional wildcrafting has its place, and I knew that one or two professionals lived in the villages, several in woods-edge settlements, and that most families have a trapper or two in the back, marginal land areas. A woman took first prize for well handled fur one year. Two woods pals of mine, Adirondack trappers, were beaten one year by the daughter of one (wife of the other) taking more value in mink, skunk, muskrats, around home than the two men did in the deep woods.

I realized the fur, hides, and food values were important to these families, but until I examined the facts, I never realized how important. I had been over hundreds of miles of traplines. I had been tens of thousands of miles, 150,000 miles, in fact, in wild regions or between wilderness areas from ocean to ocean, from Canada to the Mexican Border.

I had to consider the economic importance of Conservation, do some figuring as to the importance of trappers as members of the business. The Secretary of the Pennsylvania Game Commission wrote me that

(Continued on page 28)



Photo by Robert W. Plummer.

Pennsylvania is a great game state because her sportsmen's organizations, over 1000 strong, are always ready and willing to help in any way they can. The above group of young men from Portage are about to feed game; at left is a feeding shelter they built.

ALONG THE FENCEROW

By WILLIAM C. GRIMM

One of those features of our rural landscapes which is rapidly disappearing is the old rail fence. It harkens back to a more primitive and pioneer era; back to the days when the bounteous and well-nigh omnipresent forests were giving way to farms, and pastures, and orchards. There was a time when they were in vogue and they ran their zig-zag course over every farm, but today only pitiful remnants of this type of fence remain and these are but decrepit and disused relics. Alas, a more modern era has sealed their doom and in their place arise the unpicturesque devices of barbed and galvanized steel wire.

Not only did the old rail fence lend an artistic touch to the countryside, it was a haven for wildlife as well. One of the greatest attributes of the rail fence was the growths of trees, and shrubs, and tangles of vines which sprang up and flourished along it. They meant food and cover for the wild things. There is scarcely a bird or a beast which didn't appreciate its offerings and at some period utilize it either as a lunch counter or refuge. To many of them it was home. It was beloved by the bobwhite, the cottontail, and a host of small insectivorous and seed-eating birds.

A careful survey of the woody plants which spring up along the fencerows will disclose a surprisingly large number of those which provide food for the wild creatures in the form of nuts, or fruit such as berries. Why? The reason is not hard to seek. In practically all instances the wild folk are responsible for their being there. We must not assume, of course, that they were deliberately planted. It was all quite accidental as far as the planters were concerned. They merely were acting as agencies in Nature's ingenious plan for seed dispersal.

The cherries—the wild black and choke cherries as well as "volunteer" trees of the domestic strains—are frequently found growing along fencerows. I presume that such birds as robins, catbirds, and cedar waxwings have been responsible for carrying the seeds there. What else do we find that we might credit to the birds which feast upon the fruits and disseminate the seeds? There are the sassafras, several species of dogwoods, blackberries, raspberries, elderberry, winterberry, climbing bitter-sweet, Virginia creeper, wild grapes, sumachs, and choke berry. Yes, even the poison ivy for many of our birds find its waxy-white berries a perfectly acceptable article of diet.

Not infrequently along the fencerow we find the trees and shrubs which provide food in the form of nuts or mast. It is not at all unusual to find thickets of the hazelnut and isolated specimens of the black walnut and hickories. In singularly few instances can their presence be explained except for the fact that they were brought there by squirrels. Without a doubt they sprang from some gray squirrel's unutilized or forgotten cache. Nuthatches and blue jays are probably partly responsible, too, for the hazels and oaks as they are part of their bill-of-fare.

The old rail fence, or for that matter any fence row which is permitted to grow up with trees and brush, is always a mecca for wildlife. It provides an ever essential need—food



Contrast this picture with one showing clean farming practices where fencerows are burned and food bearing shrubs are killed by spraying. No wonder some communities lack game and song birds.

and cover—and in return the landowner receives the benefits bestowed by the presence of the wildlife. Practically every farmer today realizes the beneficial influences which are exerted by a fairly large bird population but not enough of them realize the fact that in order to have the birds he must provide suitable habitat for them. They somehow don't seem to be able to build their nests on top of the fence posts or to balance them on top of strands of barbed wire.

During the summer months these brush and tree-grown fencerows offer a decided contrast to the well-groomed fencerows as far as bird populations are concerned. Quite often I have observed a dozen or more different species of birds inhabiting but a few rods of brush-grown fencerow. Certainly they appear to be a great favorite with the avian tribe. Robins, bluebirds, flickers, house wrens, towhees, song and field sparrows, goldfinches, quail, and pheasants are among those most frequently encountered but there are many others. I have often seen mourning doves, cuckoos, chickadees, nuthatches, catbirds, cardinals, brown thrashers, and cedar waxwings. Such a fencerow supplies a remarkably varied habitat: trees in all stages of growth and decay, cavities are abundant, there are dense thickets, and tangles of briars and vines. Along a comparable stretch of barren wire fencing one occasionally sees a few birds which may have paused to rest, but they don't reside there. There is absolutely nothing to induce them to do so.

I have noticed, too, that the winter birds seek the protection and the sustenance of a well-grown fencerow. It is preferable to woods, or orchards, or open fields. At any time during the winter months I am sure of finding flocks of juncos and tree sparrows there. They may glean a large part of their living from the

surrounding fields but I have noticed that they very seldom choose to wander far from the protection afforded by good cover and they speedily seek it as soon as they are disturbed. Then, too, it is obvious that such places attract the wandering troupes of other winter birds: the blithe companies of chickadees, tufted titmice, nuthatches, and downy woodpeckers. Many is the covey of quail whose very existence through the winter months depends upon the availability of just such cover as these fencerows afford. Without them existence is indeed futile.

Who are the furred denizens of the forgotten fencerow? One glance at the snow's surface tells one that the cottontail rabbit is most certainly among them. One can scarcely traverse such a fencerow without noticing the intricate maze of rabbit tracks there. Then one is very likely also to see the tracks left by the squirrels for both the gray squirrel and the fox squirrel are wont to frequent these places. One can quite easily trace their course from tree to tree and the pits dug deep into the snow blanket, down to the brown earth beneath, tell us that they have been busy searching for their hidden stores. It wouldn't be at all unusual if one came across the track of an opossum, a skunk, a raccoon, or a fox because all of these animals include fencerows in their excursions. They are profitable places indeed for them to visit and they do so quite often. During the winter months the woodchucks and the chipmunks which reside along the fencerow will be securely fixed deep in their earthen chambers, utterly oblivious to the snow, and ice, and chilling winds. Yes, they all like the old fencerow provided it has plenty of cover in the form of trees, and brush, and tangled vines. If you want wildlife preserve such fencerows.

HUNTING DONE

By BRUA C. KEEFER

*The grim Huntsman winds his circled horn—
The chase is ended. Echo, dancing up
The vale, drops gentian seeds to mark each spot
Where the departed oft' had stopped to rest,*

*Or smoke a contemplative pipe, and count
His wealth: the streams of Spring; the Autumn woods,
A coronet of rugged health . . . content.*

WE buried Fred that Summer on the high northern side of Wildwood where, when golden Autumn came again, we could gaze up the long, broad valley down which the lovely Lycoming winds its softly singing way to the Susquehanna. That valley where so often as a boy in briar torn trousers, his long, single-barreled shotgun in the crook of his arm, he would hunt as far as sturdy, tireless legs would take him in a day. Now perchance his disembodied spirit, freed from mortal ills, could, who knows, again retrace silently and unseen those happy haunts of boyhood. At very least that spirit must rejoice when once again the frosty Indian Summer nights turn wooded hillsides into flaming billows cresting to the evening sky and mingling their multi-variant colors with the saffron coral and rose of sunset. . . .

Hunting season here again. From workbench and office desk come the woolen-shirted high-booted clan and with them those perfect companions, their hunting dogs, who, waiting patiently through long Winter and hot Summer months, are now snuffing the crisp morning air,—eager eyed and trembling with excitement. And for her fervid followers Nature places on her shrines of willow swale, alder thicket, weed grown field and mountain hollow those feathered Lorelei the woodcock, the grouse and his oriental majesty, cock pheasant.

Happy is he who lives in Pennsylvania now that Fall is here again . . . to feel once more the smooth-polished walnut stock of your favorite gun as it snaps to the hollow of your shoulder and nestles snug against your cheek; to kick through the stubbled wheat field or tread the leaf strewn logging road winding up a shadow-dappled hollow: to hear again the sharp crack of nitro powder echo through the hills or to stop for a long, cooling draught from a bubbling mountain spring. . . . those are anodynes to clear your head of every last vestige of work or worry.

Never will you forget those proud moments when your old setter held a brace of grouse against the sidehill until you and your comrade had time to come up. Your memory will always retain that living picture of your pointer pup making his first stand—sculptured marble against a background of green laurel. To follow, gun ready, the merry springer on the trail of a pheasant, his stubby tail beating time to the rhythm of your heart; or the mellow bell of your beagles voice as he takes a cottontail over the ridge, down through the swamp and back across your trail . . . that makes the blood go tingling through your veins.

Thanksgiving Day:—a light fall of snow during the night covered the Black Forest. The mountain-crisp breath of early morn glistened with frost in the sunlight that flashed brightly from the dancing ripples of Kettle Creek.

Fred and I skirted the woods back of the old Niklaus farm and started the long climb up Warpath Hollow. My Gunner and his young son were carefully investigating every likely looking bit of cover, but without reward. Grouse, this cold morning, should be feeding high on the sunny side of the ridge. The sap ran down our backs as we gained the top. Crossing Randall Road we headed for a little known and seldom hunted swale that lay hidden high on the mountainside where a brace or two of grouse could generally be depended upon.

Here the snow had already melted and the cool breeze of that high altitude felt refreshing after the long slow drill up the Warpath. Ah! There was the fringe of dark hemlock that marked the border of our swale. Fred slackened pace, removed his cap from his graying head and admonished . . . "Give the dogs a chance, you long-legged timber jumper."

Knowing that my legs had a persistent habit of crowding the game, I stopped. Suddenly Gunner wheeled and snapped to point. The pup backed. Cautiously we moved in. A roar of wings in our very faces. We fired both barrels as the grouse, every brown feather shining in the sharp November sunlight, crossed in front of us. A few dead leaves fluttered quietly to the ground. Mutely we looked each other over: broke guns to extract the empty shells and . . . whirr-r-r a straight-away rose between us, disappearing like an arrow down the hillside—too far to follow. Over his shoulder Gunner cast a slow look of disappointed disdain and walked off. The pup danced about

excitedly. The silent and-you-think-you-can-shoot expression in my old setter's eyes answered our unspoken thoughts more adequately than words.

We crossed and recrossed the swale finding nothing more and as noon was at hand sought the spring beneath twin pines for a rest and our Thanksgiving dinner. On the now dry bed of pine needles we stretched out, relaxing in the warming rays of midday sun, the pleasant smoke from our pipes blending with the aromatic fragrance of the pines.

From that high vantage point a majestic panorama unfurled before our eyes. Far below us was a valley where a man might wander lost for days. The distant gray-blue mountain tops rolled heavenward in eternal magnificence to vanish in the mists of a lost horizon. What a glorious habitation for the deer, the grouse and all the furred and feathered denizens of the forest. Who could contemplate this amazing vastness and ever again doubt the existence of Divinity?

The sky was becoming overcast. The air held a distinct chill. Fred knocked out his pipe carefully on a stone and sniffed the breeze. "More snow coming and this time plenty of it. Let's get off the mountain before it starts."

Having had several experiences with snow and fog on those broad, flat tops, I agreed without hesitation or argument to his suggestion. Our guns were leaning against a large stump, giant of a forest that was. We stood beside it momentarily discussing the advisability of retracing our steps or of cutting diagonally across the ridge to the head of Butternut Hollow. Fred slung his old double barrel to the crook of his arm. As I reached for mine my eyes caught sight of the dogs, just back of him, stretched out on point. From their tense motionless pose I knew the birds lay close.—"Fred; behind you!"

As I spoke two grouse exploded from a low laurel. Fred turned, swinging his gun to shoulder. Crack . . . crack! The two shots were hardly a second apart and both birds, killed cleanly, somersaulted in the air. I had seen him make beautiful shots but never a perfect double like this one.

Far down the slope the birds fell. "Fetch!" I called without need; both dogs were already dashing after them. In a few moments we could see Gunner returning grouse in mouth and, lo-and-behold, the pup, not to be outdone and to manor born, came proudly carrying the other. If we got no more that day Fred's excellent shooting and the pup's first retrieve were enough.

At the top of Butternut I suggested to Fred that he take the way down the upper edge of the hollow. It was steep but easier going than the brushy bottom. Traveling was slow and half way down the first snowflake fell silently. On reaching the lower end I found he had not yet arrived. I stood looking back up the hill. . . . Dimly, through the falling snow, I saw his figure emerge from the dark hemlocks and sitting, legs outstretched, he slid slowly down the slope to my feet. The look on his face concerned me as I reached to help him up.

"Hurt, Fred?" I questioned.

"No," he growled, "but my old backing straps gave out coming down that grade."

"Let's go over to the spring and rest a few moments." I suggested.

The most beautiful spring in the Black Forest poured out its cold, refreshing water in a dark pool beside the moss grown bank that overhung a smooth run of Kettle Creek. There in early Summer brook trout played golden shadowed hide-and-seek along the edge of an old log cribbing. We had often eaten lunch or in the evening cleaned a well filled basket by its side.

Now King Winter, with puffed cheeks and pursed lips, blew his chill breath down the long hollow garlanding with snow flakes the low-sweeping hemlocks. Deep in the pool were the frolic trout of May. I dipped the cup in the spring and passed it to Fred. Drinking deeply he looked about him. The appearance of sadness had vanished from his face and although his eyes were wistful his voice held its natural tone of merriment.—"I'll christen this spot and call it Hunting Done . . . Hunting Done," he repeated, "and I reckon, so am I, done hunting."

HOW TO SHOOT A BOW AND ARROW

By CLAYTON B. SHENK

To Unstring the Bow Properly—

Bend the bow in the same way as when stringing it, until the bowstring becomes slack.

Lift the loop of the slack bowstring out of the bow-tip groove with the forefinger and let it slide down the bow.

NOCKING THE ARROW AND BEGINNING THE DRAW

To "Nock" an Arrow—(Fig. 2).

Grasp the bow handle with the left hand exactly as it will be held in shooting.

Hold the bow horizontal, with the back of the hand up and with top limb (the one having the arrow plate) to the right.

Lay an arrow across the arrow plate of the bow, just above the handle and touching the hand.

Fit the nock of the arrow onto the bowstring in such a way that the cock feather (the odd feather in color) will be up or away from the bowstring.



Figure 1

STRINGING THE BOW

In stringing a Bow, keep in mind that it is necessary to distribute the bend or strain equally on both ends, otherwise it is liable to break.

To String a Bow Correctly—(Fig. 1).

Take the Bow in the right hand in such a way that the flat side is toward you.

Put the bottom bow-tip (the one to which the bowstring is permanently attached) in the instep of the right foot.

Place the heel of the left hand on the back of the bow, so that the forefinger and thumb rest just below the loop of the bowstring.

Pull the handle of the bow with the right hand and push the upper limb with the left.

Slide the left hand towards the upper bow-tip as the bow bends, letting the forefinger and thumb push the loop of the loose bowstring until it drops into the groove of the bow-tip.



Figure 3

Place the pads of the first three fingers on the bowstring, with the arrow between the first and second finger.

To Begin the Draw—(Fig. 3).

Stand facing at right angles to the line of shot, with the left side towards the target and with the feet about nine inches apart.

Turn the head facing the target and swing the bow from a horizontal to a vertical position.

Hold the bow forward in the left hand with the elbow nearly extended.

Take a deep breath and concentrate on your point-of-aim.

THE FULL DRAW AND LOOSING THE ARROW

To Complete the Draw—(Fig. 4).

Draw the right hand back steadily until it touches the chin.

Keep the fingers *below the chin* and anchor the right hand to a point on it, so that the nock of the arrow will be directly *beneath the right eye*.



Figure 4

Hold the bow absolutely steady and keep the right elbow in a continuous line with the arrow.

Hold the full draw for about one second—just long enough to make sure your point-of-aim is correct.

Regardless whether the distance you are shooting is long or short, always draw the arrow *back to the same point*.

To Make a Good Release—(Fig. 5).

Hold the arrow steadily and do not allow it to creep forward just before loosing it.

Straighten the fingers and allow the string to slip off them. Except for this slight straightening of the three draw-fingers, *there should be no other movement*.

Do not "twang" the bowstring to one side or pull it out of line in the act of releasing the arrow.

Hold the same position without moving until the arrow has hit the target.

A good release is of utmost importance, else all the preceding preparation will go for naught.

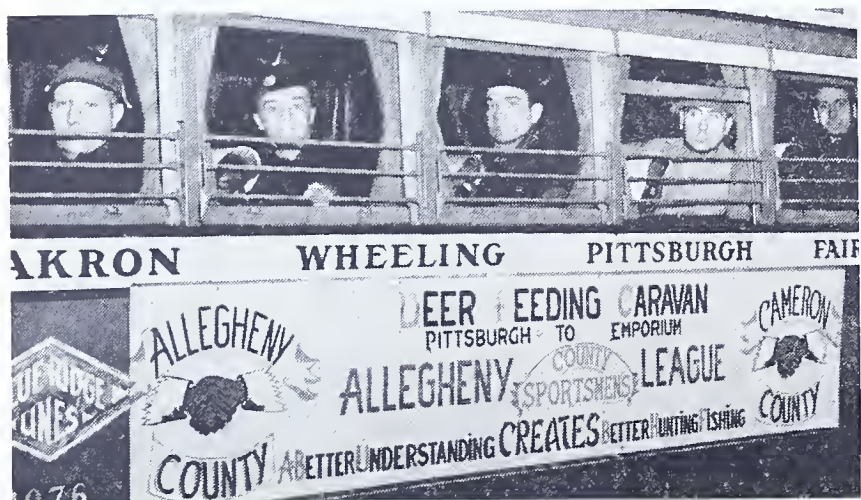


Figure 2



Figure 5

SPORTSMEN COOPERATE in FEEDING DEER



Six buses and 54 privately owned autos transported over 700 sportsmen from Allegheny county into Cameron county to feed deer. At right the boys are eating their chow, "army style".



INVADERS over 700 strong, bent not upon destruction but upon sowing good will, took Cameron County by storm on Sunday, February 26, in one of the greatest demonstrations of sportsmanship ever observed in the Commonwealth. The invaders, all from Allegheny County, and headed by Peter Krass, joined forces with their big woods comrades headed by Wm. G. Munsell, in a gigantic deer feeding program in that section. The boys from the west traveled in a caravan comprising six buses and fifty-four private automobiles, and although the weather was extremely inclement, harmony and good fellowship prevailed throughout the entire program, and nothing tended to dampen the ardor and enthusiasm of either party.

The affair was efficiently handled in every phase, and the program carried out to a letter. The caravan was about an hour late in arriving, and the opening ceremonies took place at 11:00 o'clock with "Pete" Krass, of the Allegheny County group, presenting Bill Munsell,

sponsor of the program, with a roll of greetings. The roll was then handed to District Game Supervisor Maurice Sherman who accepted it on behalf of the Game Commission. The welcoming committee comprised Burgess Edward White; District Attorney, Edwin Tompkins; W. E. Nelsen, Editor; Bill Munsell, Chairman; Stanley Priest and Maurice Sherman.

Following the exchange of greetings the caravan proceeded to Camp Dick, the site of the operations, where they were greeted and welcomed by Rev. Father Franklin, after which the men all lined up for chow which was served "army style" by the ladies of the luncheon committee. After luncheon the men were placed with group leaders and sent into the forests. They were in the woods about three hours, according to Charles Baer, District Forester, and accomplished a surprising feat by trimming about three thousand wild fruit trees and making many improvement cuttings.

Despite the fact that the men were armed with axes, machetes, saws, etc., not a single

accident occurred to mar the expedition while in the county, although three men were subsequently injured on the way home in an automobile accident.

At the conclusion of their work the men returned to camp about 4:00 o'clock and assembled before the cabin while Rev. Cluver thanked them in behalf of the local sportsmen for their splendid cooperation, assuring them that they had won the esteem and respect of every native in Cameron County by their conduct and zeal.

To Bill Munsell must go much of the credit for the success of the expedition, particularly the manner in which it was handled on the Cameron County end. Credit also is due Stanley Priest, N. W. Rakestraw, J. W. Villella, G. V. Gregory, William George, Roy Ober, the ladies of the luncheon committee, Division Game Supervisor Maurice E. Sherman, Protectors Max Ostrum, Claude Kelsey and Paul Narby, Forester Charles Baer and others.

The Allegheny end was efficiently handled by



"Pete" Krass, Allegheny county, and Wm. Munsell, Cameron county shake hands at the culmination of activities. Below the men are engaged in trimming operations.



Peter Krass, Johnny Mock, Norman Boone, George Cumpson, Charles Gerlach, Harry Depp and Frank Mathias. There is much enthusiasm in regard to making the affair an annual event and even some talk about an Allegheny-Cameron picnic in August.

Enroute to the scene of operations Charles P. Harvey, Pennzoil distributor of St. Marys, extended a rousing welcome to the Allegheny Caravan as it passed through. He had the men stop at his Temple Service Station where he presented each hunter with a ticket which was filled out and deposited at the Emporium Service Center. This ticket, properly filled out, entitled the men to a chance on an Arvin automobile heater. The winning ticket was drawn by Chief Burgess White, of Emporium, who drew the name of Charles A. Lang of Castle Shannon, Pa., the winner of the heater.

Mr. Harvey maintains a Hunter's Registration Bureau at his St. Marys and Emporium stations where hunters from all parts of Penn-

sylvania, Ohio and New York State register on their way to the hunt during the deer season. For the past several years many thousands have taken advantage of this registration plan which has enabled the hunters' families to get in touch with them in case of need, by merely contacting the Registration Bureau, which is familiar with the immediate territory and has little trouble in locating any party when the necessity arises. The Bureau, known as Harvey's Hunter's Registration, has also proven quite helpful in locating hunting camps in advance of the season, and accepts and holds mail for delivery to the men in the "wilds."

Interesting sidelights of the caravan brings to light that there were two multi-millionaires present in the caravan—steel men from Pittsburgh. But you couldn't single them out from the crowd. They did and acted just exactly as the rest of the boys. There were also at least a dozen medics in the group, but Doc Christman was the official doctor, although he

wasn't needed thanks to everybody's carefulness.

The whole program did more than to cement friendship between the two groups involved—it permitted the city men to get a new slant on the natives, and the locals discovered that the Allegheny boys are human and understandable and in the vernacular "dang good sports." Undoubtedly there will be a better feeling next fall between the two factions and that will mean better business all around and better game protection and management.

If more sportsmen's associations would take a leaf from the book of the Alleghenians and the Cameronites by sponsoring a program to feed deer or some other program in behalf of wildlife, and would make every possible effort to study the problems of the farmers and sportsmen in whose sections they hunt, it would not be long ere a wholesome situation existed throughout the entire state, and Pennsylvania would be forever assured that she could "eat her pie and have it too."

SHOOTING DOGS

By ALBERT STOLL, Jr.

Judge Charles Rubiner, of the Common Pleas Court, recently tried a case involving the killing of a hunting dog by another hunter and rendered a decision that established a new precedent and will interest hunters and owners of hunting dogs.

While hunting in the Neighborhood of Schoolcraft and Telegraph roads last fall Ralph McDonald and a companion heard a shot close by and on investigation discovered that another hunter, while climbing a wire fence, discharged his shotgun, killing McDonald's pedigreed bird dog. The dog was valued at \$250 and McDonald brought suit for damages against the hunter.

The case was tried before Judge Rubiner, whose opinion in part read: "The Court is without benefit of precedent in the reported cases of the Supreme Court of Michigan. The Court believes, however, that the rules governing the use of firearms by hunters have been so widely publicized in huntsmen's circles and through huntsmen's pages in newspapers and other periodicals that every person who assumes to handle a gun in the vicinity of other persons and of animals is chargeable with knowledge of, at least, the elementary precautions to be observed. It seems to me that among these is the rule relating to the climbing of fences, an act that must frequently be performed in the course of a hunting day. The hazard of doing so with a shotgun in hand must be evident to even the most inexperienced hunter.

"The rule formulated by sportsmen and rooted in ordinary common sense is that the gun must first be put through the fence and laid on the ground before any climbing is done. In the absence of any statutory requirement to this effect, I believe that an elementary rule of common law negligence would prevail. Even if we accept the defendant's claim that he was able to straddle the fence and that his foot caught in a loose wire lying in the ground, the rule would be the same. The passage over a fence in any form while the gun is in hand is evidence of negligence. I hold, therefore, that under the circumstances the defendant was guilty of negligence and is answerable to the plaintiff in damages."

Judge Rubiner ordered the defendant to pay the plaintiff \$150 for the loss of his dog and \$7 court costs.

Farmers are intelligent readers. They like to know what is going on, not only in their own community, but throughout the state, the nation, and the world. Furthermore, they have the ability to carefully digest and weigh all matters of import. To this end if individual sportsmen who have landowner friends, or who want to make such friends, would subscribe to the "Game News" for them for a year or two, it would go a long way toward establishing such friendly relations, and ultimately result in better hunting and fishing. If every farmer was a reader of the "Game News", as every sportsman should be, Pennsylvania would be a wildlife Utopia.

THE STRANGER

"Who's that Stranger, Mother dear?

Look! He knows us! Ain't that queer?"

"Hush, my dear! Don't talk so wild;

That's your father, dearest child!"

"That's my father? Not so at all,

For father died, you know, last fall!"

"Father didn't die, my dear,

He joined the Hunting Club out here,

And it's closed this Spring, so he

Has no place to go, you see.

"No place is left for him to roam,

That is why he's come back home.

Kiss him, he won't bite you child,

All fox-hunters look that wild."

—Jack Moon.



Photo Game Protector John Lohmann.

John Reinhart, Hamburg, and Ernest Ketner, Strausstown, with antlerless deer killed during the past season with old muzzle loading rifles.

By NELSON E. SLAYBAUGH

FINANCIAL

A study of the Commission's financial operations covering the 18½ year period from December 1, 1919 to May 31, 1938, reveals some interesting facts. The receipts totalled \$17,965,160.36, and the expenditures totalled \$17,578,742.06. The amounts expended for the six major functions were: Game Protection, \$5,647,078.08, (32%); Land Purchases, \$2,701,104.34, (15%); Land Management, \$2,483,908.48, (14%); Game Farm Expenditures, \$1,038,461.49, (6%); Game Purchases, \$1,606,192.26, (9%); Bounty Expenditures, \$2,250,719.70, (13%), or a total for these six major functions of \$15,727,464.35, (89½%). The expenditures for all other items amounted to \$1,851,277.71, (10½%).

From the above figures it will be observed that the Commission during these 18½ years expended \$10,080,386.27, (57½%) of its total outlay for the production of game and public hunting grounds, and \$5,647,078.08, (32%) for the protection of game, mostly law enforcement and \$1,851,277.71, (10½%) for all other expenses.

Another item of interest is the fact that on December 1, 1919 the Commission had a cash balance of \$606,219.12, and on May 31, 1938 closed its books with a cash balance of \$992,637.42, indicating that the Commission not only lived within its income during the 18½ years in question, but accumulated an aggregate of \$386,418.30 additional. For complete details by years, there is published on the following pages of this issue a Comparative Statement of Income and Expenditures, December 1, 1919 to May 31, 1938.

We are also publishing in this issue of the GAME NEWS extracts from the Commission's Financial Statements published in the 1937-1938 Biennial Report (covering period from June 1, 1936 to May 31, 1938) as follows:

"The Commission receives many requests for information on the condition of the Game Fund and how the sportsman's dollar is spent. ***

"During the first year the sum of \$1,220,201.80 was credited to the Game Fund, and during the second year the revenue amounted to \$1,371,250.43 (excluding \$106,378.00, fees paid for special deer permits, which were subsequently refunded), or a total of \$2,591,452.23 for the biennium. While the revenue credited during the second year of the biennium establishes the highest record in the history of the Commission, it takes third place as a biennium, the record being \$2,667,813.84 for the two-year period ending May 31, 1932.

"Expenditures during the first year of the biennium amounted to \$1,340,811.35 and the second year \$1,448,994.32 (excluding \$106,378.00 refunded fees for special deer permits), or a total of \$2,789,806.17 for the biennium. Expenditures for the biennium establish the highest record for any previous biennium or fiscal year periods. The biennium record prior to this was \$2,545,337.34 for the two-year period ending May 31, 1932.

"During the biennium the Commission continued its established policy of operating well within its income, and had on hand at the end of each fiscal year a balance sufficiently large to cover the operating expenses of the Department until the revenue for the current year became available.

SUMMARIZED FUNCTIONAL EXPENDITURES

Table No. 1

"The expenditures of the Commission during the biennium have been subdivided into major activity groupings as follows:

		<i>Part of Dollar</i>
GAME PROTECTION (Salaries and Expenses incident to Law Enforcement, Game Feeding, Game Distribution, Game Law Printing, Assisting in enforcement of Fish and Forest Laws, and other field activities)	\$ 687,081.35	24.63c.
MANAGEMENT OF GAME LANDS (Salaries and Expenses of Refuge Keepers and other employes incident to maintenance and development work on 751,560 acres of purchased and leased Game Lands and 702 Game Refuges)	505,589.85	18.12c.
GAME PURCHASES AND PROPAGATION (Including expenditures for equipment and operating four State Game Farms)	472,374.08	16.93c.
ACQUISITION OF GAME LANDS (Including title and survey work. Mostly capital investment)	456,253.52	16.35c.
PAYMENT OF BOUNTIES	199,456.77	7.15c.
PUBLIC EDUCATION (Including GAME NEWS, Motion Pictures, Exhibits, General Bulletins, etc.)	113,091.52	4.05c.
ACCOUNTING AND BUDGET (Including Legal Advertising, Mailing and Storeroom, issuance of Special Permits, General Printing, etc.)	100,594.92	3.60c.
TRAINING SCHOOL (Including both Student Class and Refresher Courses for regular Officers)	57,710.38	2.06c.
HUNTING LICENSES AND TAGS	51,477.15	1.84c.
EXECUTIVE OFFICE ADMINISTRATION (Executive Office salaries and expenses, and expenses of Commissioners)	39,923.77	1.46c.
RESEARCH AND WILD GAME TRANSFER (Including Wild Game Propagating Areas, trapping and redistribution of Game)	35,241.00	1.26c.
BEAR DAMAGE AND DEER-PROOF FENCES	23,900.18	.86c.
FEED FOR WILD GAME	20,510.65	.73c.
SPECIAL DEER PERMIT EXPENSES (Cost of permits and tags, issuance of permits and returning fees)	16,971.08	.61c.
GAME KILL TABULATION (Including expenses incident thereto)	9,629.95	.35c.
Total	\$2,789,806.17*	\$1.00

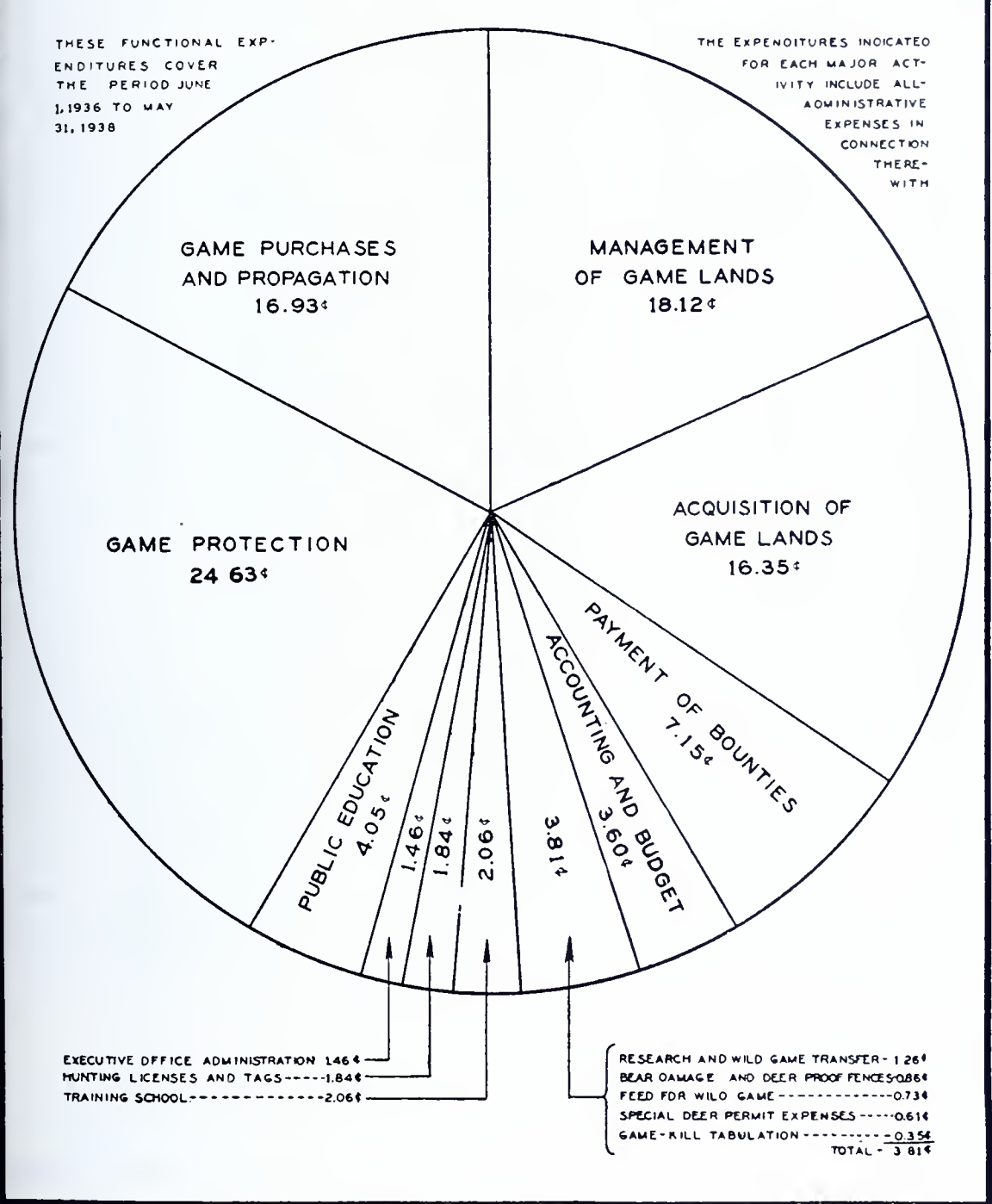
* Exclusive of \$106,378.00 fees paid for special deer permits, which amount was subsequently refunded."

NOW IS THE TIME TO
PLANT FOOD BEARING
TREES AND SHRUBS FOR
WILDLIFE

TRY TO DISCOURAGE
SPRING BRUSH BURNING
AMONG FARMERS. GET
THEM TO PILE IT ALONG
FENCE ROWS OR IN
ERODED GULLIES

OPERATIONS

HOW THE SPORTSMAN'S DOLLAR WAS SPENT



"Although the Commission has initiated new programs in keeping with present-day conservation needs, this policy has been adhered to notwithstanding the fact that it was unable to expand certain activities as extensively and as rapidly as many sportsmen have desired.

"The Commission, in addition to its annual operating requirements, has over a period of years made capital investments aggregating \$3,376,019.95, the details of which, excluding obsolete equipment disposed of, appear below.

	Capital Expenditures
State Game Lands.....	\$2,693,061.91
Buildings on Game Lands	223,957.00
State Game Farms (including land, buildings, equipment, etc.)	342,524.10
Training School (including buildings and equipment).	32,095.63
Current equipment (including automobiles, trucks, tractors, graders, office equipment, etc.)	84,381.31
Total	\$3,376,019.95

"These capital investments must of necessity be safeguarded by adequate annual expenditures for maintenance, development, and utilization in order to reap the maximum benefits therefrom."

Licenses Issued		
Year	Resident	Non-Resident
1913	305,028	.....
1914	298,972	462
1915	262,355	532
1916	290,422	662
1917	315,474	588
1918	311,290	478
1919	401,130	1,128
1920	432,240	1,725
1921	462,371	1,761
1922	473,735	2,126
1923	497,216	2,328
1924	501,572	2,558
1925	521,855	3,190
1926	520,574	3,468
1927	501,622	4,879
1928	437,727	1,190
1929	505,103	4,823
1930	530,392	6,009
1931	572,779	8,964
1932	537,451	5,251
1933	524,337	4,966
1934	568,666	6,024
1935	606,469	8,460
1936	534,573	7,124
1937	598,261	8,357
1938*	646,278	7,604

* Preliminary report—subject to change. Exclusive of 870 replacement licenses issued.

BE CAREFUL OF FIRE IN THE WOODS THIS SPRING. REMEMBER THE OLD SAYING "FIRE SWEEPS WHERE CARELESSNESS CREEPS"

TRY TO AVOID KILLING RABBITS AND OTHER GAME ON THE HIGHWAYS. USE YOUR BRAKES AND GIVE WILDLIFE A CHANCE

COMPARATIVE STATEMENT OF INCOME AND EXPENDITURES DECEMBER 1, 1919 TO MAY 31, 1938

Fiscal Years	Cash Balance Beginning of Period (A)	Total Income and Expenditures			Protection Expenditures
		Income	Expenditures (B)	Expenditures below (-) or above (+) income (C)	
Balance Dec. 1, 1919 (with unwarranted re- quisitions deducted)		\$ 606,219.12			
Dec. 1 to Nov. 30 1919-1920	\$ 606,219.12	441,576.10	\$ 544,069.46	\$102,493.36 +	\$ 213,819.10
1920-1921	503,725.76	508,554.75	665,351.91	156,797.16 +	261,483.15
Dec. 1 to May 31 1921-1922 (6 mos.)	346,928.60	123,421.83	339,719.64	216,297.81 +	119,317.81
June 1 to May 31 1922-1923	130,630.79	562,115.09	461,272.68	100,842.41 -	181,280.48
1923-1924	231,473.20	673,258.24	624,168.04	49,090.20 -	237,133.24
1924-1925	280,563.40	676,969.51	758,461.69	81,492.18 +	289,480.69
1925-1926	199,071.22	735,665.37	721,922.94	13,742.43 -	300,639.72
1926-1927	212,813.65	731,360.45	648,965.89	82,394.56 -	266,250.89
1927-1928	295,208.21	1,105,736.96	826,484.26	279,252.70 -	288,507.26
1928-1929	574,460.91	1,087,320.83	1,061,791.29	25,529.54 -	318,716.54
1929-1930	599,990.45	1,141,138.24	1,132,256.92	8,881.32 -	334,084.32
1930-1931	608,871.77	1,356,082.79	1,250,269.87	105,812.92 -	353,342.92
1931-1932	714,684.69	1,311,731.05	1,243,103.14	68,279.91 -	353,240.91
1932-1933	783,312.60	1,182,640.19	1,166,675.34	15,964.85 -	373,811.60
1933-1934	799,277.45	1,134,664.81	1,187,119.26	52,454.45 +	325,573.45
1934-1935	746,823.00	1,235,895.97	1,062,020.76	173,875.21 -	315,816.76
1935-1936	920,698.21	1,365,575.95	1,095,282.80	270,293.15 -	369,761.95
1936-1937	1,190,991.36	1,220,201.80	1,380,754.35	160,552.55 +	366,591.80
1937-1938	1,030,438.81	1,371,250.43 (G)	1,409,051.82 (G)	37,801.39 +	378,227.82
Totals (For 18½ years)		\$18,571,379.48	\$17,578,742.06		\$5,647,078.22
Balance June 1, 1938	992,637.42		992,637.42 (H)		
		\$18,571,379.48	\$18,571,379.48		32%

SUPPLEMENT

(A) This column shows cash balances without deducting previous commitments. (When contracts are made for lands and other purchases, funds therefor are reserved as "Commitments").

(B) Any differences between this column and the figures shown in the Biennial Reports are due to the omission of the "Bounty Advancement Account" amounting to \$40,000, this column showing expenditures only.

(C) Expenditures during any given year in excess of income are usually due to the payment of commitments (contracts) for lands and other obligations during previous years, or the utilization of previously accumulated reserves.

The 12 years under this column marked minus (-) indicate that during these years the income exceeded the expenditures by an aggregate of \$1,194,307.20

The 6½ years under this column marked plus (+) indicate that during this period the expenditures exceeded the income by an aggregate of

807,888.90

Net income in excess of expenditures (18½ yrs.) \$ 386,418.30

Balance as of December 1, 1919 606,219.12

Cash balance as of May 31, 1938 \$ 992,637.42

(D) Includes examination of titles and land survey up to end of 1923-24 fiscal year; thereafter such expenses are included under "Land Purchase".

(E) This excludes the Advancement Account of \$40,000 in the yearly expenditures. From December 1, 1919 to May 31, 1922 cover bounties only; from June 1, 1922 to May 31, 1938 includes bounties and administrative expenses incident thereto.

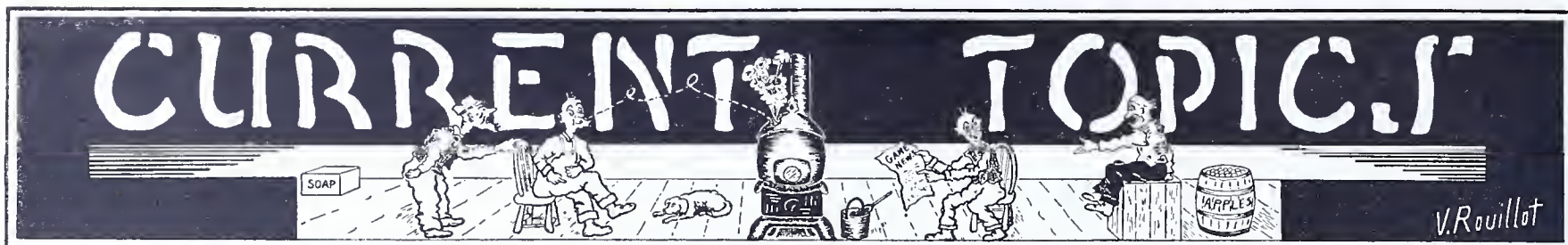
EXPENDITURES OF THE PENNSYLVANIA GAME COMMISSION

MAY 31, 1938

Total Amounts Expended For Six Major Functions						All Other Expenses	
Land Purchase Expenditures	Land Management Expenditures (D)	Game Farm Expenditures	Game Purchase Expenditures	Bounty Expenditures (E)	Totals Six Major Functions		
27,859.02	\$ 60,661.96	(Farms not established until 1929. Expenditures 1928-29 calendar year (1929) basis. Expenditures 1920-30 six month period to May 31, 1930. Subsequent expenditures fiscal year basis.)	\$ 60,430.97	\$ 125,156.00	\$ 487,927.06	\$ 56,142.40	
76,503.00	81,395.96		78,675.84	124,288.50	622,346.64	43,005.27	
1,000.00	31,580.36		71,147.95	96,664.50	319,709.93	20,009.71	
10,339.30	61,821.17		33,891.64	93,720.50	381,052.89	80,219.79	
40,251.13	79,738.47		95,089.84	107,408.70	559,622.12	64,545.92	
90,825.08	87,986.31		124,860.91	85,961.88	679,114.61	79,347.08	
2,884.03	123,984.58		117,594.51	113,499.58	658,602.69	63,320.25	
42,395.23	92,017.61		92,076.79	100,929.94	593,670.52	55,295.37	
42,395.70	136,319.80		118,704.02	149,584.44	735,510.99	90,973.27	
89,312.25	168,145.89		112,040.50	118,973.46	113,469.86	1,020,649.10	41,142.19
68,571.62 (F)	123,162.52		36,280.93	88,698.83	145,244.24	68,571.62 (F)	168,384.13
67,830.09						895,301.17)	
29,231.34	151,920.01		98,101.44	96,823.50	116,311.33	1,145,730.48	104,539.39
40,271.18	122,470.56		83,769.54	99,250.09	106,486.44	1,105,488.40	137,614.74
50,422.20	136,768.75		86,012.44	80,064.64	148,976.75	1,076,056.05	90,619.29
47,929.27	136,686.10		135,884.03	55,494.03	158,437.63	1,060,004.48	127,114.78
73,637.37	173,177.19		107,154.74	48,275.22	138,494.93	956,556.17	105,464.59
75,910.18	157,281.06		105,034.55	46,635.48	126,636.71	981,259.05	114,023.75
38,021.85	240,650.82		139,340.47	96,630.92	137,912.35	1,219,148.08	161,606.27
85,514.50	318,139.36		134,842.85	82,873.62	61,544.42	1,161,142.30	247,909.52 (1)
68,571.62 (F)	\$2,483,908.48	\$1,038,461.49	\$1,606,192.26	\$2,250,719.70	68,571.62 (F)	\$1,851,277.71	
32,532.72)					\$15,658,892.73)		
15%	14%	6%	9%	13%	89½%	10½%	

FORMATION

(F) Land bought and subsequently sold to Department of Forests and Waters.	(I) BREAKDOWN OF "OTHER EXPENSES" 1937-38:
(G) Excludes fees in the amount of \$106,378 paid for the 1937 Special Deer Permits which were refunded.	Executive Office and Accounting and Budget (Including Legal Advertising, Mailing and Store-room, Issuance of Special Game Permits, General Printing, etc.) \$ 84,974.55
(H) Explanation Covering Balance June 1, 1938: This balance includes:	Research and Related Work 36,886.54
Prior Commitments \$233,965.61	Education (Including GAME NEWS, Motion Pictures, Exhibits, General Bulletins, etc.) ... 51,157.78
Unallocated Balance to be Budgeted in Next Fiscal Year 401,750.00	600,000 Copies Issue of October 1937 GAME NEWS 19,901.84
Operating Reserve 356,921.81	Printing Hunters' Licenses, Tags and Miscellaneous Forms 28,387.78
Total \$992,637.42	Issuance of Special Deer Permits and Refunding Expenses 16,971.08
	Game Kill Tabulation and Notifying Delinquent Hunters 9,629.95
	Total \$247,909.52



HUNTING ACCIDENTS

After going over preliminary figures on the fatal and non-fatal hunting accidents during both small and large game seasons just passed we are of the opinion that all the effort made and money spent to make hunters more safety-minded did not produce the desired results. A general summing up of the situation more than justifies this disappointment. For instance, although there were only two more days of small game hunting this year than last, 24 against 22, there were seven more fatal accidents and 88 more non-fatal accidents. In 1937 during the small game season of 22 days, there were 21 fatal and 296 non-fatal accidents. During the past season of 24 days there were 28 fatal and 384 non-fatal accidents, and the same old story holds true year after year.

Most of the catastrophes were caused by pure carelessness. Only in one case were there fewer fatalities, and that was during the large game season. Despite the fact that officers in the field reported the wearing of more red than ever before, and that snow in 1938 made hunters more clearly visible against its background, there were more accidents. During 1937 there were 18 fatalities and 27 non-fatalities during the big game season as against 14 fatal and 44 non-fatal this year.

The use of old or unsafe weapons played a major part in accidents this year, and there are records of several exploding firearms where hunters were severely injured. Quite a few persons were injured when they slipped and their guns went off. One man was shot when he carelessly used the butt of his gun to subdue a deer which jumped up and started to run away as he was attempting to remove the entrails.

Three men were killed during the bear season this year; none last. However, there were no non-fatalities this year but there was one during 1937. A check-up of all accidents shows that most of them occurred during the first three or four days when concentration in the field was the heaviest. Two accidents of which we know, and there may be more, occurred while attempting to kill a second deer, and this brings up another question.

Sooner or later the Legislature is going to demand that a hunter be compelled, after killing either a deer or a bear, to leave his gun in camp until after the remaining part of the season is over. In other words, he would not be permitted to carry it while on a drive. The Commission knows, and so do officers in the field, that a certain amount of cheating is done by camp or party hunters in an attempt to get their full quota, and often a man—not a sportsman!—who has shot one deer will shoot another for someone else in the party. If hunters were compelled to leave their guns in camp after having killed their deer or bear, it would lessen the number of dangerous weapons afield and at the same time remove the temptation to kill a second animal.

Quoting from a newspaper clipping recently

received: "About 1000 persons are killed annually in hunting accidents in the United States. Hundreds more are killed annually by firearms while preparing for the hunt, cleaning guns or at target practice. In the hands of children hunters' guns carelessly left around the home have far too often figured in tragedies."

Harkening back to November's GAME NEWS editorial, you will recall what was said about the middle-aged man, who, after a heavy meal, started hurrying up the side of a mountain as if his life depended on it. Well, that very thing happened in at least a half dozen cases. Their hearts gave out, and they died. Not a pretty picture to contemplate. Of course, Pennsylvania is not the only state where hunters are killed.

The whole situation is deplorable, and we wonder after all if the Commission's energetic

PLANT A GAME FOOD PLOT

Sportsmen, wherever possible, are urged to plant plots of the Pennsylvania Game Food Mixture, which may be purchased from the Mays Seed Company, Weiser Park, Pa., at a cost of 7¢ per pound, delivered anywhere in Pennsylvania. The seed is sown broadcast at the rate of about 15 pounds per acre.

safety campaign is worth while when hunters take their own lives so lightly. However, the Commission will keep on trying in the hope that no more stringent laws may be needed for the preservation of human life.

John M. Phillips, usually referred to as the Dean of Pennsylvania Conservationists, was recently honored by the Tarentum District Sportsmen's Club at its 15th Annual Banquet.

The field force of the Game Commission has set a high mark of efficiency in its law enforcement program during the past several months. An analysis of the prosecutions for November and December, 1938 and January, 1939, the biggest months of the year from the law enforcement standpoint, shows that 2790 were made. The amazing thing, however, was that 2725 or 97.7% ended in convictions. The acquittals, numbering 65, were only 2.3%. Of 1149 cases tried before justices-of-the-peace, magistrates, etc. 1104 ended in convictions. The remaining 45 filed appeals to the Court of Quarter Sessions. A total of 1085 cases were settled on field acknowledgment of guilt.

EXTEND AAA BENEFITS

Representatives of six States which have given the most attention to the farm-game program were invited to meet with officials of the U. S. Biological Survey recently to discuss provisions for wildlife which the Survey wishes to incorporate in the agricultural adjustment administration program. Representatives were also present from the AAA, the Soil Conservation Service and the U. S. Forest Service. Missouri, Pennsylvania, Iowa and Michigan each sent one representative, North Carolina six, and Ohio three. James N. Morton, Chief of the Division of Game Land Management, represented the Pennsylvania Game Commission.

The AAA pays benefits to farmers (1) for not exceeding crop allotments of corn, wheat, cotton, etc., which allotments are determined by the AAA Administrator and the State Committees; and (2) for carrying on certain soil conserving and soil building practices.

Many of the practices for which farmers are paid are beneficial to wildlife. The biological Survey representatives who sponsored the meeting are anxious to see the word "Wildlife" worked into the regulation of the AAA, believing that some educational value will be received by making the farmer conscious that he is doing certain things not only for soil conservation but for wildlife as well.

It is also their feeling that considerably more benefits for wildlife can be obtained if the AAA officials will agree to amending and enlarging the remunerative provisions wherever applicable.

It was thought that if the plan succeeded in the above six States that it could easily be made to spread to the others.

It was generally agreed by all representatives present that it would be better to take the set-up as it is now and make corrections and additions which will enlarge benefits for wildlife and to attempt to have the AAA incorporate this in their next year's set-up. Meetings are already being held by the farm groups in some States to work up the program for 1940 payments which will start about July.

The group went through the book of AAA instructions and generally agreed on certain things. Briefly they included planting trees and shrubs, natural reseeding of certain areas by preventing grazing, cultivation and fire; by seeding of food plots with species mentioned; prevention of grazing in woodlots, etc.

As soon as the program has been approved by the officials in Washington, the Game Commission plans to attempt to have as much as possible of it included in the Pennsylvania AAA benefit payments. The AAA is administered by Regional Administrators, State Administrators and by County and Community Groups.

Last year \$2,800,000 was paid in benefits to farmers in this State, part of it in crop allotment and part for other practices. The number of farmers participating during the past couple years runs from 50,000 to 75,000.

CURRENT TOPICS

GAME REPORTS HIT NEW HIGH

Tabulating machines are now grinding out compilations of all game killed in 1938 as shown by a truck load of reports from Pennsylvania's licensed hunters.

For the 1937 season 93% of the State's licensed hunters, a new high, voluntarily submitted their reports. What the percentage will be this year, or the identity of the negligent hunters, will not be known until the last lot of reports goes into the tabulating machines about the middle of March.

These machines do uncanny things. They not only give the totals of all kinds of game killed, but they list the license numbers of the hunters who complied with the law, thereby avoiding a \$2.00 fine, and they also divulge the identity of those who fail to cooperate.

While the Commission has no way of telling how many of the game-kill reports, submitted on a special self-mailing card attached to every license, are in the hopper, present indications are that a big majority of the sportsmen have complied with the provisions of the law. The Commission, being given no discretion in the matter, will later submit a list of those who fail to cooperate to field officers for attention.

These reports enable the Commission to determine whether the State's game supply is holding up or losing ground. It would be wonderful if the tabulating machines should show a 100% return for 1938, and would obviate the necessity for collecting any fines, a distasteful duty always.

Game Prosecutions in January totalled 273 and penalties \$13,814.

Seth Gordon, Executive Director of the Commission, recently spoke before the West Chester State Teacher's College at a program designed to interest both student as well as graduate teachers in the field of wildlife conservation.

The Game Commission now has 35 WPA Projects on State Game Lands engaged in many activities such as walling up springs, repairing old roads, planting food plots, making improvement cuttings, building bridges, releasing valuable fruit and nut-bearing trees from suppression from other less valuable vegetation and growth, etc.

HOLD ACCIDENT HEARINGS

More than 175 persons will soon be subpoenaed to testify their knowledge concerning hunting accidents during the past year which may result in the revocation of hunting license privileges for 89 persons who will be named as defendants.

The hearings will include 2 fatal cases, 16 non-fatal cases, and 7 cases of self-inflicted injuries occurring during the big game season; also, 10 fatal shootings, 60 non-fatal shootings, and 20 self-inflicted injuries occurring during the small game season. They will be held in 40 counties.

The Commission has been vigorously pursuing its safety program, inquiring into hunting accidents for the past three years. The hunting privileges of many persons have already been suspended, and in many cases the offenders have been required to furnish satisfactory proof that all hospital and doctor bills have been paid before the license privileges will be restored.

We have had several requests for copies of the GAME NEWS to complete files of various sportsmen's associations, colleges, libraries, etc. We shall be very grateful to anyone who wishes to contribute back numbers for this purpose.

Over 40,000 mature ringneck pheasants, the largest number ever released in a single season were distributed during the past several months. Several thousand bobwhite quail and Hungarian Partridges also were released. As heretofore the restocking program was handled entirely by local Game Protectors and no game was placed on any lands posted against public hunting.

Bruce Yeager, Game Protector of Northumberland County, has been trapping rabbits with excellent success on the protected right-of-way in the Pennsylvania Railroad yards of that city. He also distributed 4500 pounds of ear corn and 3000 pounds of scratch grain in that county with the aid of several members of the local sportsmen's associations and the Boy Scouts.

NOTES FROM THE FIELD

"Joe Yonkoskie, Dunlo, Pa., was fined \$80.00 for setting 24 snares for the purpose of taking wild birds and animals. This violator was fined for 8 snares at \$10.00 per snare. Incidentally, the costs were \$3.70. This is just another reason why the violator cannot expect to win." —Elmer B. Thompson, Game Protector of Cambria County.

"While training my bird dog on Farm Game Refuge Project No. 1, he came to a point. Upon investigation I found that he had pointed a black snake about five and one half feet long, which was swallowing a quail. After killing the snake I cut it open to find a rabbit about two-thirds grown. Can any of the readers tell me what my dog scented—snake, quail or rabbits?"—Newton McDowell, Deputy Game Protector, Chester County.

"Mr. Harvey Eckenrode, caretaker at the Sunni Glo orchards, Cumberland County, has found antlers of 14 bucks in one orchard during pruning operations within the past few weeks. Mr. Eckenrode has eight complete sets of antlers and six partial sets, all from different bucks. There is one set of spikes and the others range from three to eight points."—George D. Bretz, Traveling Game Protector, Shippensburg, Pa.

On March 5 Refuge Keeper Burt Oudette reported that "The spring migration of waterfowl is well under way. The seven following species have made their appearance at the open water west of the spillway: Goldeneye, Black Duck, American Coot, American Widgeon, Hooded Merganser, American Merganser, Pintail. The American eagles have also returned and are nesting east of Ford Island."

During February Game Protector D. E. Lettie and Deputy Protector Guinei were releasing rabbits in Washington Township, Butler County. One of the animals left the woods and ran across an open field. A red-tailed hawk sighted the rabbit from a distance of about one mile, winged his way straight across the valley, and killed it within sight of the two officers.



Outlawed devices and methods can often be used officially to benefit Sportsmen. The Commission's Officers sometimes find it advantageous to use a ferret to capture rabbits for transfer from areas where they are doing damage.

CURRENT TOPICS

NEW TREE DISEASES REDUCE FOOD SUPPLIES OF ANIMALS

Introduction and rapid spread of new tree diseases—favored by international commerce, by automobile travel, and by air transportation—are an increasingly serious threat to American forest and woodlands, and are responsible for a serious reduction in the food supplies of wildlife. G. F. Gravatt, of the U. S. Department of Agriculture warned members of the Botanical Society at a recent meeting. He mentioned several leaf spots and fungus diseases, not ordinarily fatal to trees, that reduce their vigor and also the output of fruits and nuts on which animals depend.

The chestnut blight, a root rot of chestnuts, a new persimmon wilt, a serious bark disease affecting beeches, and diseases of willows are particularly serious in reducing the food available for wildlife. The Dutch elm disease and the recently identified virus disease of elms are of less influence on the food supply. For birds and animals the attack of the chestnut blight on the closely related chinquapins also has proved serious. These shrubby dwarf chestnuts produce a good deal of food.

Mr. Gravatt, a tree disease specialist of the Bureau of Plant Industry, based his appraisal of the food value of various trees and shrubs mainly on research by the Bureau of Biological Survey, the Forest Service, and the Soil Conservation Service, which share the interest in the tree disease situation. In areas where oaks replace the blighted chestnuts and chinquapins, acorns replace the chestnuts as food. But in other areas replacement is with maples, birch, elm, tulip poplar and ash which supply considerably less wildlife food.

The Department is searching for chestnuts with resistance to the blight and is introducing promising stock from Asia in the hope of developing resistant strains. Most of the work is with timber species but chinquapins are being

sought for productiveness, small nuts and blight resistance.

Persimmon wilt is of particular concern. It is established in Tennessee, Florida and elsewhere in the southeastern part of the persimmon belt. It acts like an imported epidemic disease, Mr. Gravatt said, and the pathologists studying the infection are not optimistic that they can check it. Japanese and Chinese persimmons seem to be resistant and there is hope that in time it may be possible to breed hardy, resistant persimmons for planting as a wildlife food. The American persimmon is a valuable source of food for many species of wildlife such as birds, opossums, skunks, foxes, and deer. The fruit hangs on the tree late and is often available when other foods are covered by snow.

White pine, of great value for timber, is not of outstanding value for animal food, but it is necessary to eradicate wild currant and gooseberry bushes which transmit blister rust. The fruit of both these plants is of value as food for wildlife. Some species of willows are being killed by a combination of two diseases, one from Europe and one from Asia. Willow is a valuable source of food for game, and, like the persimmon, is helpful in controlling erosion.

"We are very much disturbed," said Mr. Gravatt in conclusion, "at the rapid rate at which new destructive tree diseases are appearing in this country. We are faced with increases in international commerce, in automobile travel north and south in America, and in aeroplane transport all over the world. The introduction of diseases into the country—and their spread—are thus greatly facilitated. What can we expect in the future? Any prediction would be only speculative. It is probable that thus far our forests have been exposed to relatively few of the potential tree-disease organisms present on other continents."



Colin Reed, Washington, Pa., for years a prominent figure in sportsmen's circles, was elected one of the Vice-Presidents of the National Wildlife Federation at the annual meeting of that body in Detroit in February. We are proud that Pennsylvania received such recognition and that such an honor was bestowed upon one of our leading sportsmen.

Citizens of Pennsylvania, but particularly the sportsmen's associations, bird and nature clubs, Boy and Girl Scouts, and other groups interested in the out-of-doors are to be highly commended for the splendid manner in which they contributed to the success of Wildlife Week March 19 to 25. That the people of Pennsylvania are becoming more conservation conscious was certainly evidenced by the great number of programs of various kinds which were carried on during that period. But one job is not done before another starts. We are now advised by the Educational Conservation Society that it has designated the period April 2 to 8 as American Conservation Week, which also marks the 21st Anniversary of that organization.

The Educational Conservation Society sponsors junior, senior and associate divisions of the conservationists of America, consisting of boys, girls, men and women. The junior division is open to elementary and high school students; the senior division to college and university students, and the associate division to parent, civic and other interested groups. Each group engages in all the activities incidental to the protection and welfare of our natural resources. The Society is also sponsoring a bill drafted by Harry G. Vavra, its National President, which has been submitted to each of the forty-eight states. This bill includes courses of instruction in the conservation of natural and human resources in elementary and high schools; rules prescribing courses, inspection and supervision and enforcement in elementary and high schools; teachers training colleges, schools or classes under superintendents of schools; conservation schools or departments of public colleges and universities; provision for creation of state schools of conservation at private colleges and universities.



THREE PRESIDENTS

Photo by Pittsburgh Press.

Left, Former U. S. Senator Frederic C. Walcott of Connecticut, President, American Wildlife Institute.
Center, John G. "Johnny" Mock, "All Outdoors" editor, Pittsburgh Press, President, Outdoor Writers Association of America.
Right, Jay N. "Ding" Darling, Former Chief U. S. Biological Survey of Des Moines, Ia., retiring President, National Wildlife Federation.

CURRENT TOPICS

Pennsylvania pistol and rifle shooters should feel proud of the splendid representation they had during the 1938-39 gallery season, and the National Rifle Association lists 12 Keystoneers out of 80 competitors from all over the country in Match No. 4 (free rifle standing). The Pennsylvanians who participated in this match are as follows: Donald Coble, Bellefonte; John Kaylor, Altoona; Harry E. Royer, State College; F. M. Sheffer, Franklin; M. W. Williams, Jr., Meadville; Clyde G. Siegel, Millvale; Albert Huebner, Pittsburgh; Hugh Kelly, Etna; J. C. Group, Wilkinsburg; Lester Downs, Broomall; John Walters, Fayette City; and Edward Wadling, Broomall.

Seven out of 98 competed in Match No. 5 (Tyro 50 foot rifle match, Class A) as follows: Hugh A. Kelly, Etna; R. C. Flowers, Hershey; W. Bahrenburg, Jr., Philadelphia; John Kaylor, Altoona; Clyde Siegel, Millvale; G. Burton Parshall, Primos; and Lester Downs, Broomall.

Two out of 37 competed in Class B as follows: Susanne Ward, Wyncote, and John Walters, Fayette City.

One out of 39 in Class C competed—C. F. Sterbutzel, Connelville.

Five out of 41 took part in Match 6 (Tyro .22 slow-fire pistol at 20 yards.) These contestants included H. E. Reed, Jr., Dormont; Judd Witman, Reading; G. Burton Parshall, Primos; Roy R. Rowe, Lebanon; and Dr. Norman Heinzer, Butler.

Six out of 28 entered Match No. 7 (timed fire pistol match at 50 feet) as follows: J. H. Chapman, Philadelphia; Jefferson Trader, Upper Darby; Warren J. Thompson, Lebanon; Dr. Norman Heinzer, Butler; Robert E. L. Johnson, Villa Nova; and Clyde Heinzer, Butler.

Four out of 21 competed in Match No. 8 (slow fire pistol match at 20 yards) as follows: J. H. Chapman, Philadelphia; Jefferson Trader, Upper Darby; Warren Thompson, Lebanon; and Robert E. L. Johnson, Villa Nova.

Generally speaking, the standing and scores of practically all the Pennsylvania entries were unusually good.

Five gray fox pelts, which William C. Shank, Biglerville, confessed bringing into this state from West Virginia for the purpose of collecting a \$4 bounty on each, cost Shank \$100.

On a charge of probating fraudulent bounty claims with the state of Pennsylvania, Shank paid the fine to Charles Baum, special investigator for the Game Commission, after Baum and Adams County Game Protector R. C. Anderson had investigated the case.

Shank admitted he had brought the pelts into this state in order to collect the bounty and added that bounties already had been paid on two of the skins by the state of Maryland. The Maryland payments were made before the skins came into Shank's possession.

Boxer: "Have I done him any damage?"
Disgusted Second: "No, but keep swinging. The draft may give him a cold."

Blessed are the meek and lowly heathen, for they shall inherit the earth when the "civilized" races finish butchering each other.

GUIN TALK



By J. R. MATTERN

NOT every sportsman knows that the Game Code requires the use of bullets of 25-caliber or larger to kill elk, deer or bear damaging crops in Pennsylvania.

This provision was made at the request of hunters who observed farmers using .22-caliber rimfire ammunition by moonlight on deer and bear. Too many animals ran away and died in the woods. An interesting comparison can be made between such use of .22-caliber bullets, and the old-fashioned buckshot, still used in some other states. Buckshot and .22s will both bag venison, but when you use them you've got to be willing to waste a lot of animals, or you must have the woods totally and quietly to yourself, and fresh tracking snow, with plenty of time to follow the lightly-shot game.

This regulation rules out the very newest calibers in the catalogs, such as the .219 Zipper, driving its 46 grain bullet at 3390 feet per second muzzle velocity, the .220 Swift, driving its 46 grain pill at 4140 feet velocity. It also prevents the use of the rather good old .22 High Power Savage, the .22 Hornet, and the better .22 Lovell.

There is sound sense in avoiding use of such cartridges for big game. Their bullets often kill quickly and on the spot, by nerve shock in the animal. But again they just channel insignificantly through the meat, like a ramrod pushed through—or they shatter and splatter to bits in the first inch of flesh encountered, or even in the skin. One of the boasts made of the .22 H. P. Savage when it came out, about 1910, was that its bullet would mushroom on a palm leaf fan. Plenty of progress has been made in bettering bullet design, using thicker jackets at rear, with points opening more dependably. But a bit of metal only twice the size of a grain of wheat traveling at 3000 or 4000 feet is hard to control in flesh.

This column, from time to time, will discuss technical features of guns and ammunition. It will take apart the newest things, as to make-up and performance; and it will compare them with the old. The idea is to conserve game by wasting less through inadequate shooting; and at the same time heighten your pleasure in the outdoors, and in guns in general, and in the game, by whetting your interests in the inter-

esting subject of interior and exterior ballistics.

The idea, in general, is to kill the game instead of just to shoot it, or shoot at it.

The same catalog which lists the .219 Zipper and the .220 Swift (more power to them as small game getters—they are wonderful in proper uses), still lists the .38-55, 38-40, 44-40, 40-65 and 40-72. Those were good killers in their day, and they still are good killers.

Gun and Cartridge designers are getting away from the old type of cartridge, and swinging toward the new types, largely to make easier the *hitting* of game.

With the old guns you had to play the rainbow plan. Your 40-65 bullet, for instance, or 44-40 bullet, arched high and fell more than enough to miss even at 125 yards. If the wind was blowing it arched sideways; and if your game was running, the old lead slug pursued it so slowly through the air that you needed a pitcher's twist, to give a "curve-ball" effect in the right direction. You had a lot of guessing to do.

The new cartridges, and guns, eliminate a great deal of that guessing. Within decent game ranges their bullets stick to the line of aim so rigidly, both sideways and up and down, and get out where the work is to be done so quickly, that you can say they have in-built skill. The man behind needs contribute less, and still be effective.

Of course the larger cartridges of high intensity, such as 257 Roberts and 250 Savage, 270 Winchester and 30-1906, and the like, possess the same advantages as their smaller fellows mentioned.

The modern hunter, lacking opportunity to shoot every day, or even to handle his gun frequently, can make this matter of *hitting* game still easier by obtaining a gun that handles well, and that fits his own arms and shape of shoulder. It is not for mere looks the factories have been adding pistol grips close to the trigger guards, widening and deepening the butt plates, and raising the combs of guns. They are primarily trying to give you a gun that will *hit*, in your hands.

The average hunter does not get enough shooting to satisfy him or to make him skillful; and one of the prime reasons is that he can not afford to buy enough ammunition. The answer to that problem is handloading of reduced loads. Reduced loads can be put together easily and cheaply (roughly, for about the price of .22 long rifle rimfire cartridges). They are so highly accurate that once the Metropolitan rifle matches in New York, 22-caliber matches primarily, were won with 30-1906 reduced loads. They kill groundhogs and hawks and crows and squirrels. They involve no sticking of cases in the gun, little or no case resizing. They use duPont No. 80 or Hercules Unique powder—or better yet, plain shotgun bulk smokeless—and not much of it; and lead bullets you make at home. And they require the very minimum of loading tools.

Incidentally, one of the best of moving rifle targets is an old axe swung by a piece of twine or small wire from a high limb of a tree. Preferably swing it in front of a steep hillside to stop the bullets. You can make a 30-foot target travel, or even a 50-foot travel; and the thing spins in a tell-tale way when hit.



At a recent meeting of the Littlestown Fish and Game Association some splendid prizes were awarded. Two prizes were awarded for the largest trout, 4 for the largest small mouth bass, 2 for large mouth bass, 4 for crappie, 2 for suckers, 4 for carp, 2 for cat fish, 1 for the common sun fish, and 1 for the blue gill sun fish. A pig donated by Bernard Dillman was won by S. E. Renner.

The Sweet Valley Fish and Game Protective Association increased its membership by 232 over the previous year. The Club recently purchased and released 206 rabbits and distributed half a ton of game food. Most of the expenses in connection with its conservation program are defrayed by the number of shooting matches which the organization holds.

At a recent meeting of the Crawford County Sportsmen's Council, of Springboro, it was announced that \$120 in bounty had been paid out of Council funds for 60 red foxes.

The Legislative Committee of the State Federation of Sportsmen's Clubs, which is working in close harmony with the Department of Forests and Waters, the Fish Commission, and the Game Commission, consists of John Youngman, President of the Federation, Williamsport; Benjamin Gipple, Harrisburg; and R. S. Sullenberger, Lancaster.

The Mercer County Old Home Week has invited the county sportsmen to hold their annual round-up in connection with the town celebration, July 2 to 8, setting aside Saturday, July 8 as the day for the sportsmen.

The Shenandoah Fish and Game Protective Association recently purchased and released 15 crates of rabbits. The Association also successfully reared 248 ringneck pheasants from 278 day-old chicks and 236 from 300 eggs furnished by the Game Commission last year.

Nearly 500 persons attended the 5th Anniversary Party of the Branch Valley Fish, Game and Forestry Association at Perkasio recently. During the past year this organization restocked 606 rabbits, 136 cock pheasants and 30 quail in that community and assisted the Fish Commission in restocking thousands of fish in the streams near Perkasio. The club also acquired a fish propagation pool. Seventy-five door prizes were distributed and an award was presented to the fisherman that caught the largest fish of each species last year.

Over 300 sportsmen from the Shamokin area attended the Annual Meeting of the Keystone Fish and Game Association on February 20. Hon. Charles French, Fish Commissioner and Hon. Seth Gordon, Executive Director of the Game Commission were the principal speakers. Bruce Yeager, Game Protector of Northumberland County, capably presided in the role of toastmaster, introducing the several speakers with humorous anecdotes and original wit. The meeting closed with a showing of motion pictures of the "last raft" and the distribution of many valuable door prizes.

The Kittanning Garden Club carried on an extensive bird feeding campaign during the past winter in the borough park. Game Protector R. H. McKissick cooperated.

Over 400 enthusiastic sportsmen attended the 3rd Annual Banquet of the North Butler County Hunting and Fishing Club at Petrolia on February 23. The North Butler County group has been extremely active and has a number of interesting projects under way, including a \$8000 WPA grant for stream improvement, a large game refuge, and a predatory animal control campaign. The members are particularly interested in fox hunting, and several local hunts have been sponsored recently. Troy Burns, former Game Protector, acted as toastmaster, a duty he discharged very ably and cleverly. Members of various visiting and affiliated associations were called upon for short speeches, and the speaking program was completed with talks by Hon. Charles French, Fish Commissioner and Leo A. Luttringer, Jr., Editor of THE PENNSYLVANIA GAME NEWS who subsequently showed pictures of the "last raft." Pictures were also shown of the club's fox hunting activities. A splendid entertainment program followed including the distribution of many valuable door prizes.

The Tamaqua Rod and Gun Club is planning to give either a two-year subscription to the GAME NEWS or the ANGLER or one of each every month. It is the feeling of that group that every hunter in Pennsylvania should read these magazines, and license fees be increased 50¢ to cover the cost.



Brooder house and Pheasant rearing pens built and maintained by the Mt. Joy Sportsmen's Association of Lancaster county. The brooder house is 45 ft. long, 16 ft. wide and the pen 120 ft. long and 36 ft. wide. The Association reared 369 birds from 498 day old chicks last year at a cost of about 44¢ per bird.

WITH THE CLUBS

NEW CLUBS

Sheffield Rod and Gun Club, K. B. Barr, Secretary. Affiliated with Warren County Sportsmen's Council.

The Green Ridge Sportsmen's Club, Scranton, Pa.—Harvey Slack, Secretary.

The Smith Mills Sportsmen's Association, Smith Mills, Pa.—Joseph Janowiak, Secretary.

East Franklin Twp. Sportsmen's Association; Robert Moore, Kittanning, Pa., Secretary.

Bagdad District Sportsmen's Association; Homer Kuhns, Leechburg, Pa., Secretary.

A new club got off to a splendid start recently in Evans City. The group organized with 88 members. Earl B. Walker is Secretary.

The Hempfield Farmers and Sportsmen Association, Salunga, Pa. Mr. J. Earl Way is Secretary.

An organization for sportsmen in the central part of Cambria County was launched recently at a meeting at Portage. Dr. Henry Bento was elected President, Raymond W. Collins, Secretary, and George Richardson, Treasurer. Vice-Presidents were chosen to represent the various districts as follows: Harry Chappel, Spring Hill; Joseph Oracz, Jamestown; William McCabe, Martindale and Merle Walker, Lilley; Charles Gallagher, Wilmore and Fred Plait, Portage.

Over 1200 members of the Erie County Sportsmen's League, the largest in the history of that organization, met recently to celebrate the conclusion of a membership drive which netted over 2100 members, over 700 enrolling within a week. Dr. John J. Koehler, in an enthusiastic address, urged each member to bring in one new member in an effort to increase the total to 3000. The Erie group is one of the most active in the State, and its program this year will no doubt be one of its largest. The League expects among other things to stress the farm-game program particularly.

Over 250 enthusiastic sportsmen attended the Annual Banquet of the Shenango Valley Sportsmen's Association on March 10. Charles A. French, Fish Commissioner; Robert Lamberton, Game Commissioner; and Hayes T. Englert, Division Game Supervisor, were the principal speakers.

The Morrisville Fish and Game Protective Association established a junior club last fall which has been very active. The club now numbers 50 boys who have been divided up into six units. Each unit has a leader, and each leader is assigned a senior member of the association to act as a counselor. During the past winter the club carried on a very carefully planned game feeding program and is now taking part in a bird house building contest. The club also boasts a rifle team. Future projects of the junior organization will include eradication of the tent caterpillar, forest conservation, the study of fur-bearers, game food planting, instruction in the art of fishing, and fish conservation. Members of the parent organization who are responsible for the activities of the junior club include John F. Lumsden, Allan Woolf, Roy Stackhouse and Fred Wurpel.

The Monessen Sportsmen's Association rifle team would like to hear from other teams that would be interested in having shoots for a ten-man team using any sights at a 50 ft. distance. Any club wishing to take advantage of this challenge should contact John J. Santoro, 440 Knox Avenue, Monessen, Pa.

At a recent meeting the Spring Grove Sportsmen's Association enlisted forty new members, pushing its total enrollment over the two hundred mark. The Association is carrying on an active rabbit trapping program.

The State Centre Game, Fish and Forestry Association is sponsoring a Youth Education program beginning with a series of lectures on Fur-bearing Animals of Pennsylvania, their habits, methods of trapping, etc. Elmer L. Pilling, local game protector, has been recruited to assist in the program.

The Scranton Camp No. 63 of the United Sportsmen of Pennsylvania recently decided to organize a junior club.

The Midland Colored Hunting and Fishing Association, organized last year, now has a membership of 60. The club recently purchased and distributed 24 cottontail rabbits out of its own funds.

Floyd Rogers, of the Branch Valley Fish, Game and Forestry Association, of Perkasio, reports that his club has bought and released 606 rabbits, 136 male ringnecks and 30 quail in the area around Perkasio.

The Chambersburg Rod and Gun Club recently voted to organize a junior association.

The Nessmuk Rod and Gun Club, of Wellsboro, is making a drive to increase its membership to 500 persons.



H. L. Buchanan, well known Franklin, Pa., sportsman in his trophy room. The black bear at the right was taken three years ago. The moose over his desk was taken last year in the Big Marsh country of Canada.

FOX HUNTING—By W. Newbold Ely, Jr., M.F.H.

Few people realize the amount of money which is spent on fox hunting. In Great Britain for instance it is over \$75,000,000 a year. There are 200 organized packs in Great Britain who spend £15,000,000, a year, £100,000 for horses for just hunting, groom's wages £3,200,000 forage £4,160,000, shoeing £560,000, hounds £847,000, vets £320,000, sundries £423,000, plus £5,500,000 for hunt servants' wages, food, clothes, equipment, subscriptions, damage claims, tailors, bootmakers, grain dealers, saddlers, hotel keepers, etc.; and while the United States had less organized packs, viz. 128, they have thousands of individuals owning from one to fifty hounds.

In America there are 128 organized packs but in addition there are hundreds of individual fox hunters to every member of an organized pack and these individuals often have over fifty hounds apiece. The total of money spent in America compares favorably with the mother country, and at the rate it has grown, it is already a valuable industry to the countryside. This progress has been steady since the founder of our country hunted the gray fox along the banks of the Potomac. Samuel Henry's "Foxhunting Is Different" brings some of this sporting side of George Washington who "attended a cockfight and a vestry meeting on the same day." He would go to church and enter in his diary the pious duty as performed. But he said not who the preacher was nor subject of the sermon. Foxes, hounds, and hunting were matters that loomed large in his philosophy and there is detail after detail.

You cannot help loving Washington when you read his diaries—an unstudied record of day-to-day happenings. The man stands forth alone . . . Despite the treatment he has received at the hands of historians, who have made of him an aloof and detached god, to a fellow-lover of sport the Virginian seems a departed friend, a human and responsive character with whom he has spent many happy hours afield; for foxhunters . . . speak the same language. In the carefree years of 1768-69-70, the Virginian planted and reaped, bred horses, experimented with the soil, ingeniously sought to devise a better plow . . . With meticulous detail he tells about each hunt, how long it lasted, whether the quarry was lost, denned or killed, of hounds switching from fox to deer and says they once got after a bear.

Washington's spelling was rather unorthodox. An entry of Feb. 12, 1768: 'Foxhunting with Col. Fairfax. Caught two foxes.' Oct. 22, 1768, relates how he went 'a-hunting with Lord Fairfax and Col. Fairfax—caught two foxes.' Washington's huntsman was a little Negro named Billy Lee, a former jockey, who, according to this authority,

after his master died 'drank himself to death, dying of the D. T.'s.' Part of his pack were French hounds given him by Lafayette.

Showing his foxhunting can make a community the "Washington Post" thus describes Farquier County, Virginia: "Its businessmen are as interested in the sale of farmlands and the happiness of the red fox as the businessmen of Eastern towns are in the promotion of new factories. The Chamber of Commerce, headed by George Hickman would fight to keep smokestacks out of the country as readily as Easterners would fight to bring them in. . . . The growth and prosperity of the county it attributed by E. S. Cox, veteran treasurer, to the low tax rate. 'We have the cheapest tax rate of any county in Virginia. It is but 86 cents on the average and in some districts it is down to 80 cents. Yet we are out of debt and have a surplus.'"

We saw the following account from the "Richmond Register," in the "Tribune" of Corbin, Kentucky, and we trust that it was widely syndicated throughout the United States. However we fear it may be confined to the more sporting sections, inasmuch as some editors have about as much perspective about foxes as the bigoted gentleman in New England who made bonfires out of some of the Salem debutantes for being witches. "Down here in the Blue Grass country where fox hunting is almost the native sport—next to horse racing, perhaps—and foxes are carefully preserved, it will be of interest to note that an exhaustive study of the fox's diet has been made by the Game Conservation Department of Virginia and their research revealed that game birds rarely, if ever, are eaten by foxes. Rats, mice, insects, and fruit form the major portion of Reynard's daily menu, according to the survey.

Here for the first time is found the constructive value of foxes, which English writers always have attributed to this distinguished quadruped so often classified merely as vermin without getting credit for the aid he gives to farmers and landowners. In England many foxes are well known in a community, and are referred to with considerable reverence. In fact, they are so highly regarded that no attempt is made to kill them even with a pack of hounds, and the huntsman and whips see to it that hounds are whipped off after a good run." Mr. C. B. Davidson, Jr., of Millbrook, N. Y., one of the country's foremost game breeders recently startled game shooters by insisting that foxes were not only important but absolutely necessary as a proper balance for nature, in order to consume destructive vermin such as rats and mice, and to keep down the number of weak and inferior game birds.

SOCIAL SECURITY IN CONSERVATION

(Continued from page 12)

the fur take of Pennsylvania had averaged for, as I recall, ten years, \$1,660,000 annually. And from various estimates, information I dug up here and there, it was obvious that instead of a trapper getting \$80 to \$200 a year for five months work in the woods, he was getting, in Pennsylvania \$300 to \$800 a year—with far more than \$1000 in individual catches—working from middle November into February. Instead of getting \$4 to \$10 a week, he was getting \$30 to \$80 a week! And where perhaps 500 trappers were living during the winters on \$100,000 worth of fur (\$50,000 taken by professionals), now 10,000 trappers were being taken care of during winter months by fur, with great quantities of wild non-game meat which formerly had been scarce.

In New York the fur take was \$75,000, "inconsiderable" a fur buyer told me, before Conservation. In 1927-28 the take was figured at \$2,800,000. I used to wonder if the years of effort I put into wildlife restoration paid. I was a fire patrol in the Forest Department of New York, at the turn from waste to Conservation. Two \$10,000 appropriation bills, one for tree planting, and one for introducing beaver into the Adirondacks were sensational. The one for tree planting was held up because I was given a \$75 a month job. I told the man responsible I'd resign and go back into politics if he wanted me to, and the bill went through immediately. It was a hard fight to get Conservation started.

And that tree planting bill has added tens of millions to National wealth. The beaver returns \$15,000 or so annually on the \$10,000 investment, as furs, and none can estimate how much for fish, for water supply, streams restored, for muskrats, for nesting of wildfowl and related creatures. I know one Adirondack stream where a beaver

dam 12 feet high increased the size of fish from under half a pound to more than a pound—and ten or fifteen times as many fish are taken at least.

Any estimate of Conservation's priceless boon to Hunters, Fishermen and Nature Lovers is impossible. Words nor figures could measure the returns to the people who enjoy wildcrafting and wild creature. When I come to "practical" people, who demand to be shown what good Conservation is, I say that in New York and Pennsylvania more than 15,000 families who make only six or seven months living by domestic occupations during the summer months in marginal land areas are, because of Conservation, able to make five or six months living wildcrafting—furs, game, fish, and related incomes. I do not include the tens of millions of dollars that Pennsylvania receives because of its tremendous wildlife heritage. Thousands of men and women receive direct and indirect income because Pennsylvania gives its tithe to the wild creatures. These have returned uncountable millions in, shall we say, "cold cash?" Not cold, when this money means sustenance for some 100,000 people in those localities and regions where they are needed.

No investment ever made by the public, by a state, returns more profit, or opportunity, than an investment in Conservation. Conservation's economic side is indicated by the fact that New York and Pennsylvania furs now are "considerable". They are probably 10% of the National take. With Louisiana, they are 20% or so. These three states, include less than 90,000 square miles, of producing area. There is work to be done over all the 2,000,000 square miles, of potential wildlife producing area of the United States. Will it pay?

THE FALL FOODS OF RINGNECK PHEASANTS AND BOBWHITES

(Continued from page 9)

ANIMAL:

Grasshoppers	77
Beetles	22
Unknown insects	16
Snails	6
Stink Bugs	2
Cricket	1
Millipedes	1
Spider	1

GRAVEL AND DIRT:

Gravel and dirt	69
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TABLE 3.—Five most important pheasant foods

Food	Percent of total volume
Corn	54.0
Lesser ragweed	5.2
Grasshoppers	4.5
Buckwheat	3.2
Skunk cabbage	2.5

TABLE 4.—Foods in 61 bobwhite crops

Kind of food	Times occurring
VEGETABLE:	
Lesser ragweed (<i>Ambrosia artemisiifolia</i>)	38
Foxtail grass (<i>Setaria glauca</i>)	14
Corn (<i>Zea mays</i>)	13
Smartweed (<i>Polygonum</i> spp.)	11
Wheat (<i>Triticum aestivum</i>)	8
Black locust (<i>Robinia Pseudo-Acacia</i>)	4
Green foxtail (<i>Setaria viridis</i>)	4
Buckwheat (<i>Fagopyrum esculentum</i>)	3
Grapes (<i>Vitis</i> spp.)	3
Crab grass (<i>Digitaria humifusa</i>)	2
Spice bush (<i>Benzoïn aestivale</i>)	2
Acorns (<i>Quercus</i> sp.)	1
Beans (<i>Phaseolus</i> sp.)	1
Clover seed (<i>Melilotus</i> sp.)	1
Crab apple (<i>Pyrus</i> sp.)	1
Greater ragweed (<i>Ambrosia trifida</i>)	1
Ground cherry (<i>Physalis</i> sp.)	1
Milkweed (<i>Asclepius</i> sp.)	1
Pokeweed (<i>Phytolacca decandra</i>)	1
Sourdock (<i>Rumex crispus</i>)	1
Sumac (<i>Rhus</i> sp.)	1
Unknown plant fragments	1
Unknown seeds	18

ANIMAL:

Unknown insects	6
Grasshoppers	2
Stink bugs	2
Beetle	1
Cricket	1

GRAVEL:

Gravel	6
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TABLE 5.—Five most important bobwhite foods

Foods	Percent of total volume
Lesser ragweed	25
Corn	21
Wheat	9
Foxtail	7
Buckwheat	5

TABLE 6.—Analysis of crops

Divisions	Pheasants Percent	Bobwhites Percent
Crop seeds and attendant crop weed seeds	74	81
Noncrop seeds (grape, dogwood, etc.) ..	16	11
Animal matter (insects, etc.)	6	5
Gravel	4	3

percent cultivated grains; 41.6 percent weed seeds; 17.1 percent fruits and nuts; 0.26 percent insects; 0.23 percent grass and leaves; and 0.003 percent other animals. Studies by Swenk (1930) revealed that corn formed 67 percent of the year's food of pheasants in Nebraska.

The best pheasant ranges in Pennsylvania are found in those counties where the corn acreage is highest and where the corn is hand-picked and the stalks are left standing over winter. The preference of corn by pheasants is well illustrated in this study, where 54 percent of the total volume was corn. Corn was not eaten because other foods were not available. The best lesser ragweed and foxtail growths are found in the corn-growing regions. These two plants are known to be good game bird foods, and this study shows that they are eaten in smaller quantities than corn. Corn seems to be the key factor in the Pennsylvania ranges. Some second-class pheasant counties have a large acreage of corn, but most of it is cut for ensilage; and by the time pheasants need it, it has been put up for cattle feed. The corn left in machine-picked cornfields is made unavailable for food when it becomes snow-covered.

Thus, if more pheasants are wanted, more corn will have to be provided, particularly in counties where the corn acreage is low or where the corn is cut for ensilage purposes. The simple practice of leaving several rows of standing corn along hedgerows or woodlots would provide much food and improve the pheasant habitat in many areas.

The main food of the bobwhite consisted of lesser ragweed and corn. Lesser ragweed is almost dependent upon cultivation for subsistence. It grows luxuriantly with corn and it follows the harvest in oat and wheat stubblefields. In open winters when snowfall is light, the bobwhite could probably survive on the seeds of lesser ragweed and other plants in many areas. Several inches of snow during the winter, however, make most foods of this type unavailable. Errington and Hamerstrom (1936) state that corn is the supremely important winter bobwhite food in Wisconsin and Iowa. Standing corn adjacent to good brushy cover seems to be necessary for the perpetuation of a good bobwhite population in Pennsylvania. Leaving several rows of standing corn adjacent to such cover is a simple management practice that will mean more breeding bobwhites in the coverts in spring. This practice can be arranged for by sportsmen with farmers at a very low cost.

This study presents the food habits of pheasants and bobwhites for a short period, the hunting season. Much valuable information could be obtained on the year-round food requirements of these birds if crops were obtained during each of the other months of the year. Such information would give more facts on which to base proper management practices.

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(Continued from page 7)



February 1939.

Game Secured

The meat value of game secured from the 58 project areas was computed to determine how it might offset, at least to some extent, the program's cost. The estimated total weight amounted to 139,578.3

It will be noted that \$10,647.07, or 15%, of the program's total expenditures to December 31, 1938, were incurred in securing agreements and mapping the various project areas, preliminary to setting up the projects. This represents 59 projects, comprising 908 farms totalling 74,579.7 acres. Agreements for about half of this acreage are effective for 10 year periods, and the other half for 5 years. Expenditures for this phase of the program should, logically, be distributed

FUNCTIONAL CLASSIFICATION OF EXPENDITURES INCURRED EACH YEAR JUNE 1, 1936 to DECEMBER 31, 1938

Functional Classification	FISCAL YEAR JUNE 1 to MAY 31			Total for Period of about 2½ yrs.	Percent of Total	Average cost per Project acre per year
	1936-37	1937-38	7 mos. 1938-39			
Securing agreements and mapping project areas ...	\$3,150.06	\$ 3,895.50	\$ 3,601.51	\$10,647.07	15.0	1.9¢
Establishment: Setting up refuges, safety zones, etc. ...	2,726.26	19,816.23	11,043.24	33,585.73	47.4	6.1¢
Protection: Largely law enforcement	149.50	4,670.66	8,458.27	13,278.43	18.7	12.4¢
Development and Maintenance	610.97	3,829.49	8,907.27	13,347.73	18.9†	12.4¢†
Totals	\$6,636.79	\$32,211.88	\$32,010.29	\$70,858.96	100.0	32.8¢

† Incomplete. Will be slightly higher by May 31, 1939.

over the average period of 7½ years, which produces a cost of 1.9¢ per project acre per year.

The major expansion of the program in the immediate future, through the original 21 counties, will no doubt be represented by additions to existing project areas. Much of the required preliminary work has already been accomplished and additional acreages should involve comparatively little extra expense, which should be reflected in a somewhat lower average cost per acre in the next year or so.

Establishment

Establishment of projects includes brushing out refuge boundaries, setting posts for refuge wire and safety zone posters where required, stretching the wire, posting signs of various kinds, and materials required as posts, signs, wire, tools, etc. The expenditure of \$33,585.73, or 47.4% of the program's total, includes all labor and materials required.

When a project is once established it is considered completely set up for the period of the agreements, so again it is logical to distribute the cost over the average of 7½ years. This indicates, based on expenditures to date, that establishment represents a cost of 6.1¢ per project acre per year, which appears higher than is justified. However, many factors which require too much space to explain reflect themselves unfavorably in this item of cost. For instance, a considerable sum of money has been expended for tools, signs of various kinds, and other materials which will be used on subsequent projects, yet the money having been expended is included in the \$33,585.73. It is thought that the average per acre cost for this type of work will be somewhat lower in future years.

Protection

This function is largely concerned with the employment of Deputy Game Protectors for patrolling the areas during open hunting seasons to see that provisions of law are enforced. In 1936, with but one project of 1,899.8 acres in operation, the cost averaged 7.1¢ per project acre. That same area is included in the 31,599.1 acres in operation during the 1937 hunting season when the total protection cost amounted to \$4,670.66. The average cost that year was 14.7¢ per project acre. For the 73,825 acres in operation during the season of 1938, protection cost amounted to \$8,458.27, or an average of 11.4¢ per project acre. Computations indicate that for the three year period the average cost was 12.37¢ per project acre per year, a heavy item of expense.

During the 1938 season 65 deputies were employed on a per diem basis. Areas patrolled by each varied from 315 acres to 3,470 acres, or an average of 1,135 acres per deputy. Considerable protection was likewise given the areas periodically by salaried Game Protectors. The general plan called for one deputy for, approximately, each 500 project acres, but had that been carried out the cost would have been about double, or between 22¢ and 23¢ per project acre.

Protection may well be considered the very back-bone of the cooperative plan and obviously must be provided. Just how it can be done without too heavy a drain on the Game Fund is not yet fully apparent,

but the solution may be found through more active participation of sportsmen's organizations.

Development and Maintenance

Development and maintenance of project areas comprises many important functions including game habitat improvements, game raising and stocking, annual brushing of refuge boundaries where necessary, maintenance of the wire, removal and reposting of notices as required, resetting posts around safety zones, winter feeding, etc. This function of the program cost \$13,347.73 to December 31, 1938, or 18.9% of total expenditures. For the present fiscal year \$8,907.27 has been expended, producing an average of 11.4¢ per project acre, and for the 2½ year period it was 12.43¢ per project acre per year.

As previously stated, the present fiscal year ends May 31, 1939, and whatever expenditures are incurred this winter in emergency feeding and for food plots to that date must be added to the \$8,907.27. Consequently, the per acre cost will exceed 12.1¢ per acre, but how much higher cannot at this time be foretold.

Summation

Computations above explained indicate that the program's cost has been about 32.8¢ per project acre per year. To put the projects in operation totalled an average of 8¢ per project acre per year. The other two functions, protection and development and maintenance, are revealed to be much more costly, each representing 12.4¢, or a total of 24.8¢ per project acre per year.

The question may be raised whether any of the functional costs are excessive, and whether the worth of the program, reflected in benefits to farmers and sportsmen, justifies the Commission in spending 32.8¢ per acre per year on it. Personal opinions will, naturally, enter into answers to both questions, but those who have been most closely associated with the program are firmly of the belief that it should not be curtailed, and the Commission indicated this to be its opinion by actions taken at its January 11, 1939, meeting. All concerned believe that accomplishments to date and results secured have justified their cost.

About half of the total acreage now covered by cooperative agreements was previously closed to public hunting. Opening it up and at the same time protecting farmers from abuse and needless damage to their property and livestock is worth considerable effort and expense.

Then, too, the value of game taken from the 73,825 acres in 1938 offsets at least a fair proportion of the expense. This value, according to reports of officers in charge, as herein before explained, is estimated at \$55,831.32. Much of this would not have accrued to sportsmen had not the program been conducted, and even though the cost for the year was about \$32,000.00, it appears justified.

The expenditure of 32.8¢ per project acre per year compares favorably with the cost of developing and managing the Commission's primary system of State Game Lands and Refuges. For instance, during the fiscal year June 1, 1936, to May 31, 1937, expenditures for this purpose on 552,443 acres of State Game Lands, including the refuges established thereon, and for 66,881 acres of Primary Refuges on other public lands, aggregating 619,324 acres, mostly in forest territory, expenditures amounted to \$170,212.49. The average for the year is 27.4¢ per acre. In this connection, the thought should not be overlooked that more shooting, (more hunters can be provided with sport) although perhaps not more pounds of game per unit of area, is provided in agricultural sections than in forest territory.

Another important point should not be overlooked. The Cooperative Farm-Game Projects will serve as demonstration areas to show sportsmen the value of conducting game management practices to benefit farm-game. It is expected that they will serve as object lessons for both sportsmen and land owners who are willing to help themselves by improving food and cover conditions on farms wherever the farmer's interest and cooperation can be secured.

Sportsmen's Aid Needed

Sportsmen's associations can aid substantially by protecting and developing project areas, and by assigning certain members to patrol duty (not necessarily commissioned deputies), they to report violations to the Game Protector or Deputy in charge of the project.

Sponsoring organizations might also be prevailed upon to share at least a fair portion of the cost to improve food and cover conditions. In other words, if some arrangement could be made by which the Commission would be relieved of a portion of the cost of such work, either in the form of money, time, or effort contributed by the sportsmen, the program could be ultimately expanded throughout the State.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

CARRYING KNIFE FOR HUNTING

Q. Is it lawful to hunt with a six-inch knife?
J. A. F.—Swoyerville, Pa.

A. There is nothing in the Game Law to prohibit the use of a knife for hunting in Pennsylvania when used for the purpose of bleeding or dressing game which has previously been brought down in a legal manner, such as the use of a gun or a bow and arrow. The Act of March 18, 1875 makes it unlawful to carry any concealed deadly weapons, which would include a knife with a long blade, with intent to maliciously do injury to another person, but so long as there is no evidence of such intent, we see no legal objection to carrying a long-bladed knife for use in connection with hunting in this State.

* * *

SMALL BORE RIFLE FOR SMALL GAME HUNTING

Q. Is it legal to use a small-bore rifle for hunting squirrels or other small game?
R. E. S.—Robeson, Pa.

A. It is permissible to use a small bore rifle such as a .22 calibre for hunting squirrels or other small game if the rifle is not an automatic.

* * *

DOGS ON GAME PROPAGATION AREAS

Q. I own a farm adjoining a State Game Propagating Area. If my dog starts a rabbit on my land and chases it to the propagation area inside the wire, then chases it out again, do I have the right to shoot the rabbit? In what manner could I be prosecuted?

W. E. W.—Bloomsburg, Pa.

A. One of the regulations adopted by the Game Commission to govern State Propagation Areas in Pennsylvania is that a dog may not be permitted to enter such areas, except by a landowner whose home is included in the area. The rabbit hunter would therefore have no right to permit his dog to chase a rabbit into the enclosure and out again. The fine for a violation of that nature is \$25.00.

* * *

PISTOLS IN THE HOME

Q. Does a person require a permit for a pistol which he has for protection in his home?
W. M.—Wilkes-Barre, Pa.

A. It is not necessary to obtain a permit to have a pistol in your home or fixed place of business. The Firearms Act of 1931 requiring pistol permits in certain cases, exempts the possession of a pistol in one's place of abode or business headquarters.

SEMI-AUTOMATIC FIREARMS FOR HUNTING

Q. Is it lawful to use the new Stevens .22-calibre three-in-one gun which acts as an automatic, a repeater and a single shot, for hunting small game in Pennsylvania?

T. McC.—Oil City, Pa.

A. This gun is not a lawful device for hunting small game or any other wild birds or animals in Pennsylvania. Our law strictly prohibits the use of any automatic firearms, and a gun which contains an automatic feature must not be used for such hunting, even though that particular feature is not used to kill the wild creatures. If you desire to use a repeating gun, it will be necessary to use one which reloads only by some action of the operator's hand.

* * *

SHOOTING CROWS FROM AN AUTOMOBILE; AUTOMATIC PISTOLS

Q. (a) Is it lawful to shoot crows and other vermin from a car if it is off the highway?
(b) If the magazine is removed from an automatic pistol, and it is used as a single shot, is it lawful to use it to shoot game and vermin?

J. W. S.—New Holland, Pa.

A. (a) It is strictly illegal to shoot crows or other predators from an automobile even if the car is not upon a highway.
(b) Inasmuch as the law prohibits the use of an automatic firearm of any kind, it is, in our judgment, unlawful to use an automatic pistol to shoot game or predators, even though the magazine be removed. The removal of the magazine does not change the type of the firearm.

* * *

BOUNTIES ON FOXES

Q. (a) What year was bounty on red foxes discontinued?
(b) Was there a time in recent years when only \$2.00 was paid for bounty on the gray fox? If so, what year was it raised to \$4.00?

S. N. P.—Huntsdale, Pa.

A. (a) Payment of bounty on the red fox was discontinued in May, 1929.
(b) From 1915 to 1923 the bounty on gray foxes was \$2.00. The amount was increased to \$4.00 in 1923.

NUMBER OF DEER IN MICHIGAN AND PENNSYLVANIA

Q. Are there more deer in the State of Michigan than in Pennsylvania? How does the season kill compare with that of Pennsylvania?
F. E. Z.—Punxsutawney, Pa.

A. A recent statement of the United States Bureau of Biological Survey covering a big-game inventory of this country in 1937 shows Michigan first with a population of 874,716 white-tailed deer, and Pennsylvania second with 793,000. These figures are, of course, only estimated as no accurate census of big game in any State can be made.

Michigan reported a kill of more than 40,000 bucks with antlers in each of the last two hunting seasons. The largest kill of bucks with horns in this State was in 1937, when 39,347 were legally killed.

* * *

THE BLUE LAWS ON SUNDAY SHOOTING

Q. Will you please inform me what the Blue Laws state regarding the discharging of firearms in Pennsylvania on Sunday?

H. L.—Hellertown, Pa.

A. The Act of April 22, 1794, which is commonly known as the Sunday or Blue Law, provides that "If any person shall * * * use or practice any unlawful game, hunting, shooting, sport or diversion whatsoever" on Sunday, and shall be convicted, such person shall pay a fine of \$4.00 or suffer six days imprisonment in the County Jail.

* * *

SHOOTING SNAKES, CROWS, ETC., ON SUNDAY

Q. Is it lawful to shoot snakes or crows on Sunday?

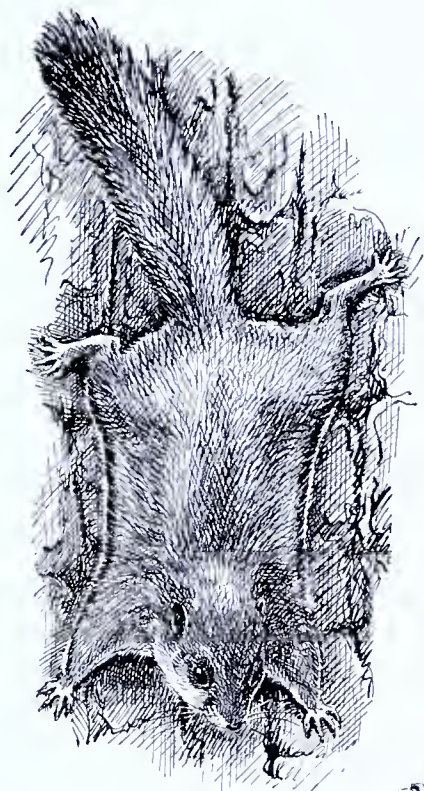
P. K.—Gilbertsville, Pa.

A. There is nothing in the Game Law to prohibit the shooting of crows or other unprotected birds or animals on Sunday if the hunter is in possession of a proper license and displays the tag as required. A hunter's license is not necessary to shoot snakes or any other creatures which may not be properly classed as wild birds or wild animals.

However, it may be possible under the old Blue Law to prosecute anywhere in the State for the discharge of firearms on Sunday, and for this as well as the further reason that it is unlawful to hunt game birds or animals on Sunday, we do not encourage any hunting on that day, as it may get the hunter into trouble.

OUR WILD NEIGHBORS

By EARL L. POOLE



ITS FOOD CONSISTS OF NUTS, SEEDS, BUDS, FRUIT, AND INSECTS, WHICH ARE EATEN IN TRUE SQUIRREL FASHION - THE FORE FEET BEING USED AS HANDS.

THE FLYING SQUIRREL IS ACTIVE AT NIGHT. ITS LARGE BRIGHT EYES AND SOFT FUR MAKING IT THE MOST ATTRACTIVE OF THE SQUIRRELS.



IT DOES NOT ACTUALLY FLY BUT GLIDES WITH GREAT SKILL FROM TREE TO TREE, STEERING WITH ITS WIDE, FLATTENED TAIL.



THE FAMILY WITH ITS TWO TO SIX YOUNG SPENDS THE DAY SLEEPING IN AN OLD WOODPECKER-NEST, KNOT HOLE OR SIMILAR CAVITY. SOMETIMES NESTS OF STICKS AND LEAVES ARE OCCUPIED.



SECTION OF TAIL

SHOWING ARRANGEMENT OF HAIR. THIS PROVIDES AN EFFICIENT RUDDER

IT IS NOT AS QUICK AS THE OTHER SQUIRRELS BUT REMAINS ACTIVE EXCEPT IN THE COLDEST WEATHER. THE FLEXIBLE SKIN FOLDS THAT ENABLE IT TO GLIDE ARE CONTRACTED OUT OF THE WAY WHEN NOT IN USE.

E.L. POOLE.

THE FLYING SQUIRREL

Wildlife Syndicate 1938

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CONSERVATION MARCHES ON

THE future of wildlife restoration in America has never looked brighter. Yesteryear there was only a comparatively mild interest in our renewable natural resources as compared to other resources of the nation, and few also were the organizations, aside from Federal and State authorities, that were strong enough financially to do more than to sell the basic ideas to further this great movement. However, despite their handicaps and their difficulties, they sowed the seed well in fertile soil, and it grew into a fine, big tree with splendid fruit.

Every year this tree has gotten more and bigger branches, and better fruit. Today, although it needs rounding out a little here and there, on the whole the tree represents hundreds of organizations and associations, national, state and local, all of which are interested in wildlife conservation.

The national government has been increasing its conservation program—especially during the past ten years. Practically every state likewise has increased, or is now diligently trying to increase, its facilities along this line. The tendency among some states has been more and more to divorce wildlife management from politics, and to put their work on a sound business-like basis.

The State of Missouri just a year or two ago set up a non-political commission patterned along the lines of the Pennsylvania plan. They even went so far as to have their entire set-up made a part of their State's Constitution. Ohio just succeeded, through the almost unanimous support of her sportsmen and farmers and a sympathetic legislature, in removing its conservation activities from the realm of political patronage. Alabama made a step forward by creating a new department of conservation, having jurisdiction over game, fish, seafoods, forests, parks, monuments and historical sites to replace a non-coordinated set up. Still other states are in the throes of reorganization, and the time is fast coming when all of them will have been freed from the tentacles of political subservience and on the road to long range constructive game management programs.

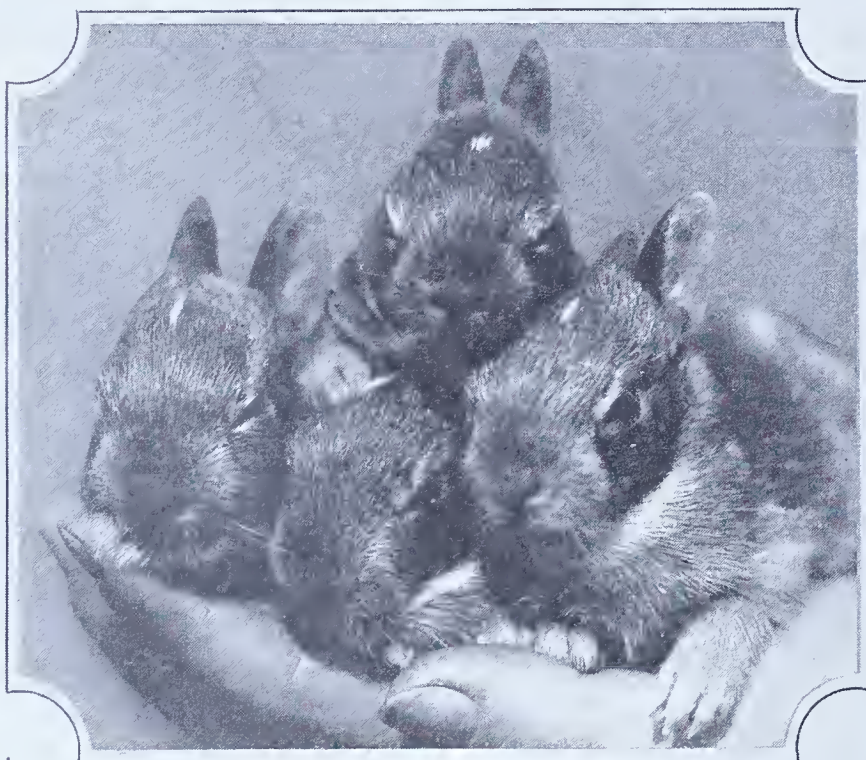
When we see the tree rounding out in this manner, when we see our efforts bringing results, when we see the youth of our land looking eagerly forward year after year to going afield in pursuit of game, health and happiness, we are reminded more forcibly than ever before that we in America are most fortunate indeed. We are reminded that we are a happy, prosperous people, a peace-loving people, a very tolerant people. Would that the people of other nations, particularly the young men, and oftentimes children, might learn to know firearms only for the purpose of luring them afield in pursuit of clean, wholesome outdoor recreation instead of fitting themselves for competition against their brothers of the human race. And all for what?

We in Pennsylvania are especially fortunate. We are a great State—great in industrial and natural resources—great in iron, coal and steel—great in farming, in scenery, in recreation. As has truthfully been said, "Pennsylvania Has Everything." But in order to have everything a people must be kept happy; in order to be kept happy a people must have adequate outdoor pursuits. Pennsylvania, through the wise preservation of its hunting, fishing and other outdoor activities; through the coordinated efforts of the Game and Fish Commissions, and the Department of Forests and Waters; and with the cooperation of the sportsmen, farmers, Boy Scouts, bird clubs, and other organizations interested in wildlife, has made all these things possible.

As long as the people of this country continue to preserve and perpetuate the things which give them happiness, which build strong bodies and mould distinctive character, just so long will America continue to be the strongest and the most powerful nation in the world. No one can afford to set aside his trowel for even a moment. We must all keep planting seeds; we must help cultivate the great tree of which we are a part; to round it out; to make it more beautiful; to make it more valuable to us and to those who follow.



Babes of the Woods



Do not pick up or molest young birds or animals. If you do you will be violating the Game Law and be subject to \$100 fine.

"Game Laws from the Judge's Viewpoint"

By F. DON PHILLIPS *

The History of Game

From the earliest traditions the right to reduce animals and birds *ferae naturae* to possession has been subject to the control of the law giving power of a nation. This was recognized by the law of the Athenians, and by the Roman laws, and later, by the laws of France and the English Common Law as well as by all other civilized countries of Europe. The code Napoleon, referring to game, declared, "There are things which belong to no one and the use of which is common to all. Police regulations decide the manner in which they may be enjoyed. The faculty of hunting and fishing is also recognized by special laws." Like recognition of the fundamental principle upon which property in game rests has led to similar history and identical results in the Common Law of Germany, in the Law of Austria, Italy, Spain, and indeed, it may be safely said in the law of all the countries of Europe. Blackstone, the great English Commentator, speaking of game says, "There still remains another species of prerogative property, founded upon a very different principle from any that have been mentioned before; the property of such animals, *ferae naturae*, as are shown by the denomination of game, with the right of pursuing, taking and destroying them; which is vested in the King alone and from him derived to such of his subjects as have received the grants of a chase, a park, a free warren or free fishery . . . In the first place then, we have already shown, and, indeed it cannot be denied, that by the law of nature every man from the prince to the peasant has an equal right of pursuing and taking to his own use all such creatures as are *ferae naturae*, and, therefore, the property of nobody, but liable to be seized by the first occupant, and so it was held by the imperial law even so late as Justinian's time . . . But it follows from the very end and constitution of society that this natural right as well as many others belonging to a man as an individual may be restrained by positive laws enacted for reasons of state or for the supposed benefit of the community."

The Ownership of Game

"After the Norman Conquest and before the Magna Charta of King John it seems that the ownership of wild game in England was vested in the English King, who claimed such ownership in his individual capacity and as a personal prerogative. Under such a system no one could acquire ownership in or title to game except by reason of special license of the King.

When the barons at Runnymede exacted from King John the Magna Charta in 1215 a change seems to have taken place in the treatment of the ownership of animals *ferae naturae*. Since then, it has become established that the King owns all wild game, not reduced to possession, in his sovereign capacity, as distinguished from his individual capacity. It is said that he holds such property as the representative of, and in "Sacred trust" for the people. This principle forms a part of the common or unwritten law and does not rest upon a statutory enactment.

The colonists who settled in America carried with them the common law of England which governed their dealings. After the American Revolution the question arose as to whether the newly independent colonies had a common law. It was judicially decided that the common law of England plus all English statutes prior to the Revolution so far as applicable to our conditions constituted the common law of the various states.

Among the principles of common law accepted as applicable to American conditions was the principle in question. It was accepted with this qualification. The State acquired the title of the King, and so it has been held uniformly in this country that the wild game owned by the State in its sovereign capacity in "Trust" for the people of the State. Thus, it is seen that the title of the State was acquired by means of the common law, and that no statute was necessary to invest it with the ownership of the wild game. For this reason it has been deemed unnecessary to examine the statutes of the various States. All statutory enactments declaring that wild

game is the property of the State are merely declaratory of the common law upon which the title of the State rests.

Since the State owns the game in its wild state in its sovereign capacity, it follows that an individual cannot obtain an absolute property right in such game except upon such conditions, restrictions and limitations as may be permitted by the State. The individual may acquire an absolute property right in game only as a matter of privilege; not, as a matter of right. The conditions under which an individual may acquire property rights in game are matters within the province of the Legislatures of the various States. The Legislatures may impose such conditions as they deem necessary and expedient, so long as they do not contravene any principle of the Constitution.

Another ground frequently advanced to support the right of the Legislature to impose regulations governing the hunting of wild game is the police power. Under the police power a State has power to regulate in the interests of the public health, safety, morals, and welfare.

While the State has an ownership of the wild game within its borders, the individual owner of real estate has an interest in the game on his premises. This interest is not an absolute property right, but it is in the nature of a qualified property interest in such game. No other person has a right to go upon his premises, without permission, to take the game. Subject to the regulations imposed by the State the owner of the land has the right to control the game in his lands.

Since the ownership of game by the State in its sovereign capacity in "Trust" for the benefit of the people rests upon the common law and not upon statutes, an examination has been made of the decided cases in the United States Supreme Court, the Federal Courts, the appellate courts of the forty-eight states and the District of Columbia and the general statement of the law seems to be as follows: 'It is the ownership of the people of the state in their collective sovereign capacity. The Supreme Court has determined its character in languages too plain to be controverted. After reviewing the Roman Law in which the Court finds that creatures *ferae naturae* were considered belonging in common to all the citizens of the state and Pothier's disagreement under the doctrine of natural law, and Blackstone's assertion that animals *ferae naturae* are prerogative property vested in the King alone, the Supreme Court defines the property right as being in the people of the state in their sovereign capacity, as follows:

"Whilst the fundamental principles upon which the common property in game rests have undergone no change, the development of free institutions has led to the recognition of the fact that the power or control lodged in the States, resulting from this common ownership, is to be exercised, like all other powers of government, as a trust for the benefit of the people, and not as a prerogative for the advantage of the government, as distinct from the people, or for the benefit of private individuals as distinguished from the public good. Therefore, for the purpose of exercising this power, the State, as held by this court in *Martin v. Waddell*, 16 Pet 410, represents its people, and the ownership is that of the people in their united sovereignty. The common ownership, and its resulting responsibility in the State, is thus stated in a well considered opinion of the Supreme Court of California:

"The wild game within a State belongs to the people in their collective sovereign capacity. It is not the subject of private ownership except in so far as the people may elect to make it so; and they may, if they see fit, absolutely prohibit the taking of it, or traffic and commerce in it, if it is deemed necessary for the protection or preservation of the public good.'

The same view has been expressed by the Supreme Court of Minnesota as follows:

"We take it to be the correct doctrine in this country, that the ownership of wild animals, so far as they are capable of ownership, is in the State, not as a proprietor but in its sovereign capacity as the representative and for the benefit of all its people in common.'

* Judge Superior Court of North Carolina in an Address to 32d Annual Convention of the International Association of Game, Fish, and Conservation Commissioners at Asheville, N. C., June 21, 1938. Excerpted.

CERTAIN MECHANICS OF WINTER QUAIL LOSSES REVEALED BY LABORATORY EXPERIMENTATION*

Introduction

THE winter killing of bobwhite quail throughout the northern portion of the species' natural range presents a common problem currently faced by numerous state conservation departments, several federal departments and many other persons interested in sound wildlife management.

The literature dealing with the loss of quail during the winter months is far too voluminous to review thoroughly in a brief report of this type. Recent contributions by Errington and Hammerstrom (1936), Leopold (1937), Wade (1937), and Gerstell (1937) are, however, pointedly related to the study under consideration.

Very briefly outlined, the investigations cited reveal two major points. First, that during those extremely severe winters which occur roughly every twenty years, there is a drastic reduction in the bobwhite quail populations throughout large portions of their northern range. Secondly, that the actual losses occur in two general ways, namely, either as the result of prolonged periods of unusual cold combined with food shortages, which cause gradual losses in body weight and general vitality and culminate in death by various means; or apparently due to the effect of certain unusual meteorological combinations which bring inexplicably sudden death to individuals that have not suffered the gradual decimation just mentioned.

Just how a bird faced with extended periods of cold weather and inadequate food supplies may gradually become "physically run down" and finally fall victim to exposure, predation, parasitism, or disease is not difficult to imagine. On the other hand, how quail apparently in the best of condition can succumb to certain meteorological combinations, not necessarily extreme, within the period of a relatively few hours is extremely puzzling. In an attempt to discover the exact mechanics involved in losses of the latter type, the Pennsylvania Game Commission recently undertook a series of laboratory experiments dealing with the subject. This paper represents a brief report on some of the information gathered to date.

Experimental Methods

The investigations herein reported were carried on entirely under laboratory conditions. The principal equipment employed was a climoactometer, a device designed to measure the effects of various meteorological factors upon the activity and general physiology of animals. This apparatus has elsewhere been described in detail by Gerstell (1938). Thus, it is sufficient to report here that it is a large unit which allows for the controlled simulation of meteorological conditions.

The specimens utilized for experimentation were artificially propagated northern bobwhite quail (*Colinus virginianus virginianus*). It is not claimed that the results obtained from such specimens are similar in every respect to those

By RICHARD GERSTELL

EDITOR'S NOTE: *The following progress report by Richard Gerstell, Chief of the Division of Research, gives a glimpse of the extent to which this activity can be practically applied. The Commission feels that through this particular type of research it will be able to give the sportsman some very helpful recommendations, and at the same time help to solve a lot of the perplexing and heretofore unknown answers to certain problems.*

For instance, many quail hunters have been of the opinion that they could safely shoot down a covey to five or six birds without endangering the future supply. But, if subsequent experiments show the same results as those brought to light in Mr. Gerstell's report, it will mean that bird hunters will have to go a little easy on coveys of quail in the future when they know the minimum "safety factor" has been reached.

Watch the GAME NEWS for other progress reports of our research activities.

which might be secured through the use of wild-reared stock, though a close parallel may reasonably be expected.

The Quail Huddle

The characteristic huddling habit of the bobwhite is widely known. In general, the birds form a compact circle, each squatting "shoulder to shoulder" closely against the individuals on either side. The tails point inward, meeting at the center of the disc, while the heads, facing outward in all directions of the compass, form its outer circumference. When flushed, the "bombshell formation" bursts with a breathtaking whirl of wings.

The common belief is that bobwhites huddle in this unusual manner both for the purpose of

peculiar habit is open to question, as will be discussed in the following paragraphs.

Having carefully observed the huddling activities of captive quail, both wild-reared and artificially propagated individuals, the author has arrived at the following generalization: "The lower the environmental temperature, the tighter the huddle." In other words, the colder the environment the closer the quail crowd together.

These observations led to a careful study of the internal and surface temperatures of the bobwhite. This was accomplished through the use of a precision potentiometer and a checked iron-constant and thermocouple in the general manner described by Kallir (1930) and Baldwin and Kendeigh (1932). A brief summary of a part of the information gathered by this means is presented in the table below.

Anyone who has closely observed quail in the act of forming a huddle, or slowly emerging from it, knows that the wings are held tightly against the body, while the breast feathers are fluffed out and "mixed" with those of the individuals on either side. Then the birds gradually settle down constantly working closer together until an even, compact huddle is formed. As indicated in the table, the highest point of surface temperature lies under the wings. From this it may possibly follow that the same areas are the points of greatest heat loss from the body. These items appear to be of especial significance since winter-killed quail are so frequently found to have a thin formation of ice under each wing.

The Experiments

In order to determine whether or not the characteristic quail huddle might possibly represent an instinctive method of reducing the loss of body heat during prolonged periods of inactivity, a series of low-temperature experiments were run in the climoactometer. The details of each, together with the results obtained, are briefly outlined in the following paragraphs.

TABLE I

Average Body Temperatures of Bobwhite Quail

(Based on readings obtained from 80 individuals held in the hand at environmental temperatures of 45° F. between 5:00 and 7:00 P.M., roughly two hours after feeding.)

In Gizzard	Skin Surfaces Under Feathers		
	Under Left Wing	Middle of Breast	Center of Back
109.2° F.	96.3° F.	94.0° F.	91.8° F.

"making a quick get-away" without interfering with each other's efforts and in order to provide a maximum protection from enemies of all sorts by "having the eyes of the group turned outward in all directions." Whether or not this is the true and complete explanation of this

In the first experiment, seventeen individual quail were employed. These were broken into three groups containing eleven, five, and one birds. The two larger groups were each placed in small wire cages fitted with composition-board floors one-half inch in thickness. The

* From a paper presented at the Fourth North American Wildlife Conference, Detroit, Michigan, February, 15-17, 1939.

basal area of each cage was just large enough to accommodate one of the two "coveys" comfortably and a thermocouple was placed in the center of the floor in order to measure the temperature of the air in the center of each huddle during the period of experimentation.

At approximately 5:30 P.M. (dusk) the experimental birds were removed from outdoor holding pens. They had just huddled for the night and had eaten shortly beforehand. The environmental temperature was 38° F. The groups of eleven and five, confined in the cages just described, were placed in the climoactometer at 6:00 P.M. The temperature within the machine was +2° F. and the movement of air through the climatic chamber was set at four and eight-tenths miles per hour. During the entire period of experimentation the environmental temperatures varied only between +2° F. and -6° F., while the air movement remained constant. The temperatures at the center of each huddle were measured hourly and the birds were carefully observed at intervals of several hours. The single bird was held as a control in a small box where the temperature ranged between 36° F. and 44° F. During the experiment all birds were subjected only to a very dim light.

At the end of the thirty-first hour, one of the birds in the covey of five was dead, while another was noticeably weak. After thirty-seven hours two of the birds in the smaller covey were dead and the remaining three too weak to fly and barely able to walk. In the larger covey one bird, which had been constantly on the windward side of the cage, had recently died, but all the other individuals were in excellent condition. The birds were removed from the climoactometer at this time and placed in an environmental temperature of 44° F.

Some indication of the comparative physiological condition of the two groups of birds at the time of removal from the chamber was revealed by the fact that the average body temperature (taken in the gizzard) of the three live birds in the smaller group was 100.2° F., while that of the ten live birds in the larger covey was 106.9° F., with no individual below

105.2° F. The weight loss, including the dead birds, averaged 0.008 pounds per bird in the smaller covey and 0.007 pounds in the larger group. After two hours' holding at the 44° F. environmental temperature, the weakened birds in the smaller covey had, to all outward appearances, regained their vigor and their average body temperature had increased to 107.7° F. while that of the other group was 107.9° F. At this point, the live birds were returned to the outside holding pens where they were carefully watched for several days immediately following wherein no abnormal conditions could be observed among them.

At no time during the experiment did the control bird exhibit any unusual behavior and at the time the experimental specimens were removed from the climatic chamber, the body temperature of this individual was 107.8° F.

The second experiment was quite similar to the first with the exception that four experimental coveys were used. These numbered ten, five, three, and one birds. The specimens had been held without food for twenty-four hours at environmental temperatures ranging from 26° F. to 34° F. They were placed in the climoactometer at 6:00 P.M. The temperature within the chamber was held at 0° F. with variations of less than 1° F., while the wind movement was held constantly at five miles per hour. During the nighttime the chamber was dark, but brilliant illumination was offered during the daytime.

The single bird was dead at the end of the ninth hour of experimentation, while all others appeared to be in good condition. At the end of the thirteenth hour, the entire covey of three were dead, while one bird was dead in each of the two groups of five and ten. At the end of the twentieth hour, four out of the covey of five were dead, while the fifth was barely alive. In the covey of ten two birds were dead, one recently, but all others were found to be quite strong and well able to fly.

The body temperature of the sole living bird from the covey of five was found to be 81.0° F., more than twenty-five degrees below normal. The bird was too weak to stand or even right

itself when laid on its side. It was immediately placed in an environmental temperature of 115° F. One-half hour later its body temperature had risen to 86.2° F. and its eyes had opened. At the end of one hour, the body temperature was 96.0° F. and the bird was able to stand on its feet. After two hours the body temperature was 104.2° F. and the specimen was again able to walk, run, and fly. Certainly this represents a remarkable recovery.

At the time of removal from the chamber the average body temperature of the eight birds from the ten group was 104.8° F. In all groups the average loss in body weight ranged from 0.007 to 0.010 pounds per bird. At the end of twenty-two hours the live birds were returned to the holding pens where they exhibited no apparent ill effects during the following two days.

In the third experiment two groups of birds numbering three and eleven were each allowed free range in one-half of the climoactometer. The temperature was held at 0° F. and the average air movement was nine miles per hour. Daylight and dark were simulated with the lighting equipment. Again the birds were placed in the chamber at approximately 6:00 P.M., having fed within the previous two hours.

At the end of the twenty-fifth hour one of the birds from the group of three lay dead in the center of the floor, while the other two were huddled in a corner. All birds in the larger covey appeared to be in good condition. After forty-four hours the two remaining birds in the smaller covey were found to be dead, while all members of the larger group were alive and in good condition. At that time the live birds were returned to the holding pens where all but one, which appeared to be "dopey," remained in good condition for several days.

In all three experiments it was found that except when disturbed the birds at such low temperatures remained in the huddle at all times and even when frightened by the operator's entry into the climoactometer they ap-

(Continued on Page 28)



Bobwhite Quail in Huddle.



Wild Crabapple.

A FARMER who tried to pasture ten cows in a three-cow pasture would be the laughing stock of his neighbors. Yet, due to a lack of information, we are apt to be doing a very similar thing with our pheasants and quail. We are stocking with fair uniformity over all the towns of the state, where, in many cases, we may already have as many birds as can find a year-round living.

In any useful approach to the problem of food habits of wildlife, many important factors must be considered. First, the problem is a regional one, and the food most used by an animal in one place may be practically lacking or unused a hundred miles away where vegetative types are different or heavier concentrations of animals have eliminated this favorite food. Also, the food habits of a species are seasonal and vary between years, so that, in order to get the complete picture of its needs, a considerable period must be covered. Then there are individual tastes among animals just as much as among humans. One deer may browse on ground hemlock almost entirely, while another may walk through the same section feeding mainly on hardwood browse. On this account it is necessary to have data from a large number of animals in order to get representative figures.

There are two general methods of studying food habits, stomach analysis and feeding observations. Study of the stomach contents is

Sumac.



THE PLACE OF WILDLIFE

By N. W. HOSLEY

the best means of getting the relative amounts of food taken. It has limitations in that we cannot always be sure how the animal got the food. A grouse found in a fall fox stomach may have been shot and lost by a hunter. Some foods which are difficult to digest may be held long enough to give them an undue weight in the analysis. One often finds a ruffed grouse gizzard full of the seeds of thorn apple, while more easily digested foods taken at the same time may have all disappeared. Feeding observations, either by watching the animals or tracking them in snow and observing the feeding, show how and where the food is obtained but not so much as to quantity. As an instance, a deer feeding under an apple tree may have taken one fruit or a dozen so far as can be told from tracking observations. Accordingly, a combination of the two methods is needed in order to get a well-rounded picture.

Granted that we know what is eaten and how much, we still do not usually know the real value of these foods to the animal. Very few foods used extensively by wildlife have ever been analyzed chemically, and we have only general information as to the requirements of wildlife species in respect to proteins, fats, sugars, etc. Also, one of the greatest values of fruits to wildlife is apt to be through the vitamins or other special properties. Little is known about the vitamin requirements of wild animals or of the vitamin contents of any except the fruits used as human food. However, from experiments with these, it is reasonable to suppose that the other fruits are a good source of Vitamin C. This regulates growth, digestion and condition of the heart and prevents blood disorders and bone brittleness. (Michael, 1932) Leopold (1933) also suggests that some fruits may be the source of necessary minerals and that others may act as astringents or vermifuges. Feeding experiments such as the ones carried out in New York on the white-tailed deer (Maynard et al., 1935) are especially valuable in judging nutritional values. This study showed that although balsam browse, was readily eaten, the animals that fed on it alone soon weakened and wasted away to a skeleton; while yellow birch, northern white cedar, or soft maple, kept them in a thrifty condition. Feeding experiments with pen-raised game birds are almost useless as far as showing anything about normal food preferences. A ruffed grouse raised from an egg taken in the wild is apt to prefer the grain on which it was brought up to berries or thorn apples. However, feeding of captive birds can be used to show what parts of a given food can be digested by them and how much benefit is gained.

Norris (1934) found that the minimum protein requirement of young pheasants was about twenty-four per cent of their food or from four to six per cent greater than for chicks of domestic fowls. Callenbach (1933) found the best early growth and feathering in pheasant chicks resulted from feeding a ration with about twenty-eight per cent protein. The figures are, of course, high as a diet for adults since the protein requirements during the growth period are greater in proportion to body weight than during adult life (Mitchell, 1932).

This need of the chicks is best met in the wild by insect foods and tends to explain the fact that young grouse and pheasants feed mainly on this class of foods, changing later to an almost exclusively plant diet.

To wild animals under normal conditions in the northern states, winter presents a real food problem. Greater difficulty in travel and the increased effort necessary to get food cause an increased need for food. At the same time, low temperatures cause greater body heat loss

The part which proteins, sugars, and fats play in the metabolism of wildlife species is generally understood but the relative utilization of

FOODS IN MANAGEMENT

Paper delivered at meeting of Connecticut State Federation of Sportsmen, Hartford, Connecticut, March 3, 1939.

various types of these substances is not as yet worked out. If we knew the needs of captive wild animals we would still be in the dark as to needs in nature because, as shown by experiment, a laboratory dog spending a summer in the country increased its energy use twenty per cent over that while it was in the city. (Benedict, et al., 1925).

We are beginning to accumulate a very worthwhile fund of information on the important foods used by the various game species. The Biological Survey has, of course, pioneered in this direction and the thousands of stomach analyses carried out by this Bureau are an invaluable source of information.

Perhaps more work has been done on the waterfowl than on any other group of species. Since 1905 when McAtee first began a systematic study, thousands of stomachs have been analyzed and field work such as that of Logan Bennett, as given in his recent monograph on the Blue Winged Teal, have added immeasurably to the picture. Among the important foods of the ducks most common in the northeast, the pond weed family is the most important group. These plants have a variety of species tolerant of all the acidity conditions of the region and will do well in most situations. Next in importance comes the sedge family with a wide variety of species growing in more shallow water than the pond weeds. The grasses produce an importance amount of food, especially with the black duck, mallards, and the teal. The smartweed family is next in importance, followed by the arrow heads, coontails, wild celery, water lily and duck weed. The trees and shrubs also produce considerable food, especially during the fall. Ducks are very fond of beech nuts and some species feed extensively on acorns. The fruits of the bayberry, wild grape, button bush and dogwood are also taken whenever available. Insects and all sorts of small water animals are also important food sources.

The food list of the ruffed grouse is, of course, a long one since the bird is likely to eat small quantities of almost any plant food available and since about 1000 stomachs have been analyzed by the Biological Survey. About 100 kinds of woody plants alone are known to be used as food. The bird is able to digest browse and its gizzard can crack up the hard coated seeds of almost any species eaten so that the nutrients in these are made available. The most important foods in the ten northeastern states are, in order, oak (acorns), grapes, poplar and birch browse; the fruits of hawthorn; beech nuts; the browse and seeds of hop hornbeam; the fruits of the cherry; fruits, browse and leaves of apples; fruits of dogwood and sumach; the browse of hazel; the fruits and browse of blueberry and the viburnums, and the fruit of the raspberry. Both the leaves and fruits of the checkerberry or wintergreen are taken in quantity. Favored herbaceous foods include the clovers, sorrels, strawberry, potentilla and the fruit of the Canada Mayflower and skunk cabbage. Food habits vary considerably between the states. In most of the New England states, apple is one of the staple foods and in the northern parts of New Hampshire, Vermont, and Maine, acorns are of course scarce in the diet. On the other hand, beech nuts figure rather strongly in the northern group of states while they are practically lacking in Massachusetts, Rhode Island, and Connecticut.

The pheasant is, of course, essentially a seed eater and thrives only in sections where weed seeds or grains are available for its winter food. Among the species which are most important in its diet, other than cultivated grains, are the ragweed, skunk cabbage, smartweeds, waste grains of various kinds, burdock, beans, and some 100 species of woody plants. In this last group are included the dogwoods of which the panicle species is most useful; the hawthorns, bayberry, five-leaved ivy, poison ivy, cherry, rose, green brier,



Butternut.

red berried nightshade, black alder and grape. The young birds a week old ate 87% insects and 10% grain while at twelve weeks, grain made up 87% and seeds 7% of the total food (Dalke, 1935).

The bobwhite quail eats almost anything available. His diet includes seeds, fruits, leaves, buds, tubers, insects, spiders, worms, snails, crustaceans and even small frogs. The seeds of weeds and fruits of the trees and shrubs make up a large part of the winter diet. Practically any weed seed which is large enough to be interesting or any small grain is readily accepted. Fruits of a large number of species are taken and the upper size limit which can be swallowed is almost unbelievable. Among the species of weeds used are those already given for the pheasant and many others including chickweed, pigweed, New Jersey tea, bush clover, and many grasses and sedges. Of the woody plants, the northern bayberry is outstanding. The bobwhite also seems to be able to utilize the fruit of the pasture juniper. Other species in this group include the various dogwoods, the hawthorn, blueberry and huckleberry, the black alder, cherries, acorns, the beans of the black locust, the fruit of the sumachs, green brier, basswood, raspberry and grape. In the south, the seeds of the pines furnish one of the most important foods and undoubtedly

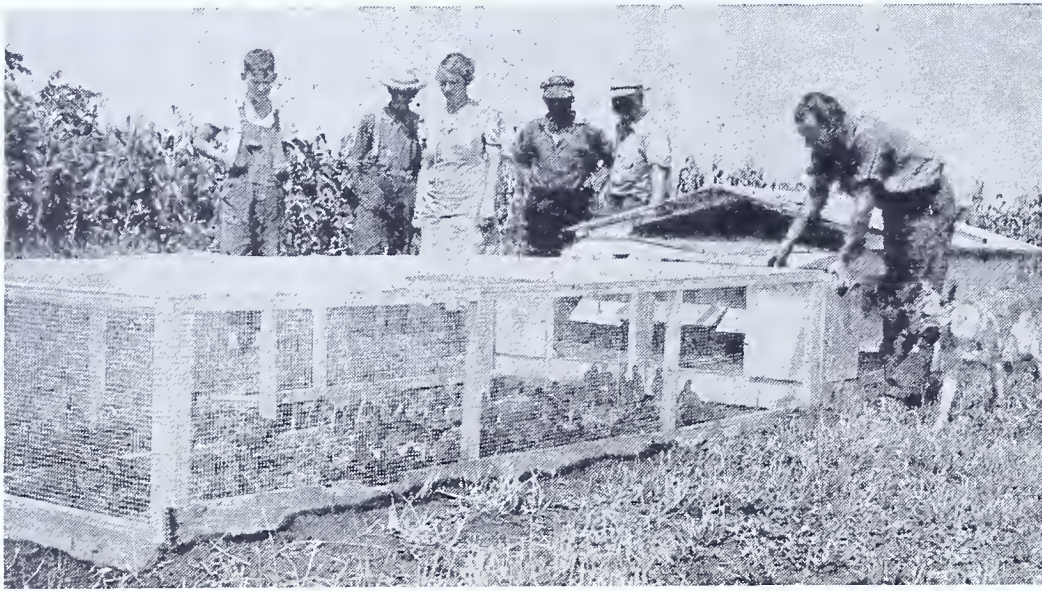
(Continued on Page 31)

Red Chokeberry.



Conservation Education in Indiana

By C. R. GUTERMUTH *



Type of brooder used by one of Indiana's Conservation Clubs.

PRIOR to 1933, Indiana, like all other states, was confronted with that ever perplexing problem of public apathy. At that time those entrusted with the administration of conservation affairs in our state recognized the fact that Conservation is a broad field. They also realized that in a broad field there are many interests, some of which appear conflicting. It was believed that in the ultimate these conflicts of conservation interest were more imaginary than real; that they were mainly due to misunderstanding and could be brought into harmony and agreement through the formation of conservation clubs.

So six years ago a state-wide conservation club movement was started in Indiana and a State Conservation Advisory Committee was elected by the clubs. Never before had any state attempted to coordinate all types of outdoor enthusiasts. When the idea was first proposed it was submitted to persons who had been engaged in conservation work for years, some of them were recognized authorities on the subject, and after careful scrutiny they rejected the plan as unworkable and impractical. It was stated that such a program would never work successfully. They said that the different kinds of sportsmen would not work together. Our plan was, however, based on one sound principle, which was this: That every class of sportsmen, every circle of outdoorsmen, every group and sub-group should be represented in some form of organization, that no faction was too small to be heard, and that all interested persons should have a voice in the adoption and establishment of future policies.

Being convinced that the plan would work, we started out to form clubs. It was decided that each club should be a real conservation club, in the truest and broadest sense; not merely a social organization that meets monthly to heckle every constructive suggestion. To accomplish this the clubs had to have something to do, and have a worthy objective. It was decided that there should be a club in every community large enough for one to function. And the various organizations had to be

affiliated. As our state-wide organization is described you will see that although it was started in 1933 it is identical with the plan later adopted by the National Wildlife Federation. Under the Indiana system each club elects its own officers and a club delegate. The delegates meet once each month as a county council, presided over by a county representative elected by the club delegates. All manner of local problems, in fact all phases of conservation are discussed in these county meetings. Every locality presents its views and out of these county councils come splendid recommendations and suggestions for improvements.

At a specified time the county representatives meet by conservation districts, of which there are sixteen, and elect district representatives. These sixteen district representatives, plus the state president of the Izaak Walton League, the president of the Federation of Indiana Conservation Clubs, and the State Conservation Chairman of the Indiana Department of the American Legion make up the Indiana State Conservation Advisory Committee. At least four times each year this state advisory committee meets with the Department of Conservation, and no major policy or change is ever made without the approval of the clubs through their representative group. This in brief is the plan and it is working. For six years, in Indiana, every fundamental action of the State Department has had the approval of the majority of Hoosier conservationists. The public knows what is going on and has a voice in what is being done, before it happens.

In 1933, we had only 37 clubs. Today there are 874 active, local conservation clubs in Indiana. Today, in Indiana, there are over 250,000 Hoosiers banded together, working at conservation, talking conservation and keeping over 400 local newspapers interested in publicizing conservation. Nearly 60% of the clubs are in rural communities and over 70% of the entire club membership is made up of farmers and landowners. The members are not just hunters and fishermen and they do not have

selfish motives. They have learned that results come from cooperation. We have many women's organizations and junior clubs, and the number of clubs and club members is increasing every day. Indiana has the first county-wide women's conservation organization in the United States; made up mostly of rural women, and they are operating their own electric brooder for game birds. The first women's chapter, charter No. 1, of the Izaak Walton League of America is in our state and these ladies have their own fish rearing pond and electric game bird brooder. So—you can see that the women-folks are working at conservation.

Ministers are using conservation as a text, many schools are teaching it. Conservation is no longer a hazy, indefinite, theoretical thing, a foreign subject. It has become dynamic and active. The 4-H clubs, the boy scouts and girl scouts are helping, so are many other groups, including service clubs, garden clubs, farm bureaus and granges, and nature study groups. People from every walk of life are enrolled as active, working conservationists. Experience has taught us that the public is interested, they can get along together and are ready and willing to help.

Indiana is very diversified as you probably know. The deep south is apparent along the Ohio river and the far north may be seen in our lake region. Our state is so diversified that the problems are multiplied. We have the fox chasers and those that do not care for the fox; the winter and the summer fisherman. But in spite of the differences of opinion the club organization works, and without a discordant note in the club ranks or in the state-wide organization. Harmony and friendship prevail, the sportsmen understand each other. Hoosier conservationists are working hand in hand with the state department and factional squabbles are no longer disrupting every progressive step.

During 1938 we had 198 clubs who hatched and raised game fish under contract with the state department. The clubs operated 466 ponds with an aggregate of 264½ acres of water. Last year they liberated 3,608,219 fingerlings of contract size aside from hundreds of thousands of fry too small to count. The total water area in club operated ponds, in one county alone, is greater than the area of all state owned fish hatcheries combined. During the last 3 years the clubs have planted nearly 6½ million fingerlings in neighboring waters and the results are apparent. The club members can actually see the good of their work.

Here is something else. Some men have always speared fish. It is their sport, and no matter how much you may disapprove, it remains their one great thrill. So we made friends of these people by letting them spear coarse and predatory fish and it was not necessary for the department to furnish spears. Illegal spears were turned over to game wardens and permits were issued to clubs for spearing

* Director of Education, Indiana Department of Conservation. Excerpted from a paper presented at the Fourth Annual National Wildlife Conference, Detroit, Michigan, February 16, 1939.

parties. These spearing parties, in company with a warden, take carp, gar and dogfish. Over seventy spears were surrendered in one locality alone by former violators. The plan not only provides the old-time gigger with his sport, but it has proved to be a most economical way of getting rid of undesirable fish. Before this system was started, Indiana spent thousands of dollars on stream and lake improvement work, now the job is handled by the clubs without cost to the state department.

Since this activity was started in 1934 the clubs have removed 159,047 predatory fish, weighing several tons, and have restored good fishing in many areas that had not been frequented by fishermen for a long time. Violations have been minimized. The game wardens work with the sportsmen and are no longer classed as public enemies, as in previous years. They attend several thousand club meetings annually, mingle with the hunters and fishermen, and are regarded as friends. The fish pirate has become a conservationist. And by the way, we have found that most so-called pirates are really good sportsmen at heart, and when they find out what we are trying to do, they too, are willing to help.

Probably the greatest achievement of the clubs is in the artificial propagation of pheasants and quail. For several years they received thousands of eggs from state game farms for hatching and rearing, by the hen system, under contract with the state department. In 1938 the Division of Fish and Game provided day-old chicks from the state game farms to 149 clubs that constructed 155 approved electric brooders for the raising of pheasants and quail. These clubs received nearly 40,000 chicks and released at the age of 8 to 10 weeks 61% of the quail and over 90% of the pheasants. This was a splendid record for the first year and the other clubs were quick to recognize it. This year we will have over 420 clubs operating their own electric brooders, most of them are completed already, waiting for the distribution of chicks.

Another project worthy of mention is the increased number of clubs applying for contracts for the propagation of raccoons. Although this is rather a new activity it is becoming very popular. A similar project calls for the establishment of raccoon dens. The clubs are now supplementing the Department's efforts to increase raccoon.

Indiana's clubs get paid for their work—a specified amount for fingerling fish, for eight weeks old pheasants or quail, and for the

raccoon raised and released. We would much rather pay the clubs to do this work because in that way the benefits are multiplied. At first the clubs were inclined to spend this money on big dinners, but some of them started buying park sites, building their own lakes and club houses, and the idea spread. Now over 200 clubs own club houses, some of them very elaborate. Quite often the club headquarters becomes a regular community park with a picnic ground, rifle range, skeet and trap grounds, fish rearing ponds, forest nursery, wildlife display with racoon or game bird propagation facilities including electric brooders. These club properties are the pride of many communities and are conservation demonstration areas. Whole families visit the tracts regularly, meetings are held there, the people hear the discussions on conservation and learn the reasons for it.

Only a very few of our clubs can be classed as sportsmen organizations; most of them are conservation clubs in everything pertaining to the natural resources of their locality. However, they are not local in their interests. Their departmental contacts keep them informed on the state and national program. They get around—they have vision—and they have enthusiasm. Last year during National Wildlife Restoration Week the Hoosier clubs, without preliminary knowledge, with little encouragement, and in only two weeks time, sold nearly 350,000 wildlife stamps. This placed Indiana in fourth or fifth place among all the states in the number of stamps sold.

Our clubs are so all-inclusive in their activities that we cannot even outline all of the many local and individual types of work in which they are engaged, this would result in an almost endless task. Nothing can be said of the millions of trees planted; the soil erosion and water conservation projects; the wildlife food and cover plantings, and the state-wide emergency feeding operations. This is also true of the department's efforts in trying to keep pace with the clubs.

The state department has four field representatives, equipped with 16MM motion picture and colored slide lecture equipment, who devote full time contacting conservation clubs, schools and other civic groups throughout the state. These men present programs on all phases of conservation and help the clubs with their many problems. In addition to the regular club contact work, since the educational bureau was formed, bureau members attended 3,645 meetings, speaking to 740,434 people, and these figures do not include the meetings attended

by other members of the department. The number of schools visited in the past four and a half years reached a total of 661, wherein 126,764 students were informed of Indiana's conservation program and were made to realize the importance of natural resources. Here again the clubs render assistance by scheduling club members for talks before the schools and other local meetings.

Indiana is employing almost every medium to publicize conservation. To supplement the department's efforts, the clubs themselves are putting on radio broadcasts, outdoor shows, sporting events, contests, wildlife displays, are sending out news releases and are providing booths and programs for public gatherings. They plan tours to the Indiana State parks, state forests, game farms and fish hatcheries, and are enabling our people to get acquainted with their own state.

OUTDOOR INDIANA, the state publication now has a circulation of over 165,000 copies and the mailing list continues to grow steadily as club membership increases and public interest in conservation broadens. This monthly magazine is mailed without cost to members of all conservation clubs and all others interested in the furtherance of Indiana's conservation program. It has become very popular and since the magazine is devoted exclusively to Hoosier activities it tends to stimulate interest in the clubs and keeps the membership informed on current affairs.

The state-wide club program has solved another very important problem. Indiana does not have any of the so-called farmer-sportsmen or commercialized shooting areas and the Hoosier sportsmen do not welcome the dissemination of information from outside sources which encourages the formation of such areas. Free hunting is available to everyone in our state and until local conditions warrant a change, we hope our present method will be continued.

Our club organization is in its sixth year of successful operation. The innumerable accomplishments and the beneficial, permanent improvements to the credit of the clubs justifies their perpetuation. Organized conservation is so firmly established in Indiana that it will always be a dominant and forceful influence in the social and economic life of the state. Public indifference is no longer the chief concern; the current problem is, how can we keep up with the advanced program and take care of the ever increasing public demand in behalf of conservation.



Type of fish hatching ponds maintained by Hoosier Conservation Clubs.



CURB THE .22 RIFLE

By CHAS. F. STAMBAUGH

Young spike buck with bullet wound in one leg resting in Whip-poor-will Creek near Ball Dam, Cameron county. Later removed from stream and wounds dressed by local Game Protector. It recovered. What stronger appeal than the pitiful suffering expressed in the eyes of the unfortunate animal.

Photo by F. J. Harrison. Submitted by Fred E. Smith.

THAT the .22 calibre rifle is one of the finest mediums for genuine sport and real pleasure cannot be denied by anyone who has ever put this convenient little gun to his shoulder. For the development of true marksmanship, for friendly competition at the shooting gallery or the outdoor target range, for shooting the smaller unprotected species such as the English sparrow, the kingfisher, the crow, the weasel or the chipmunk, it is unexcelled.

This small-bore rifle is unquestionably a desirable gun when properly used. But when the .22 is used to kill larger animals than its limited shocking power will speedily and humanely bring down, it becomes a cruel and improper device, causing days, sometimes weeks and months, of suffering to the wounded animal that was its unfortunate target.

For instance, let us for a minute consider deer hunting. When a deer is hit by an expanding bullet fired from a good high-powered rifle of heavier calibre, such as the 30.06 the .35 or .38, the prospects are that it will either drop at once or continue in flight for not more than about 200 yards before it falls. It is a comparatively easy matter for the hunter to recover the animal and hasten humane death in the event the bullet has not killed it.

But if the same hunter used a .22 rifle, what would happen? The deer, unless mortally wounded through the heart or other very vital organ, would undoubtedly continue in painful flight. Unless another hunter brings it down, it struggles along in a miserable existence. Just how long the animal will suffer, no one can tell. It depends upon the nature of the wound and the possibility of the injured animal being discovered by man.

In this connection, Game Refuge Keeper Albert Bachman, of Bedford County, renders the following special report of an actual experience with a deer shot by a .22 short rifle bullet:

"Around 5:00 P. M. on March 2, 1939, I received a call to get a deer which was seen struggling around on a back street in the borough of Rainsburg. Upon my arrival a couple of young boys were carrying the deer towards my garage, which was but a quarter of a mile away. The deer, a small doe was still alive and breathing normally, but was unable to regain her feet. Believing her beyond aid I cut her throat and hauled her to the nearby mountain, skinned her and removed her entrails in an attempt to find out what happened to her. Against her ribs on the right side lay a .22 rifle bullet, I presume a .22 short, which had been there quite a long time, as the side had healed. I failed to find anything else except a number of bruise marks on her hind quarters and a lot of scratches and mud on her legs and feet. She was heavy with young, and upon opening her up I found three young, two males and one female, which were little larger than rats. I turned the unborn deer over to Bedford High School where they will be preserved."

This is a striking example of how a small .22 short rifle bullet cost the life of not only one deer, but four; not to mention the suffering the doe must have undergone before her death. Numerous reports of a similar character have come from other Game Protectors. The

present Game Law forbids the killing of deer damaging farm crops, fruit trees, etc., with a firearm discharging a bullet or ball smaller than a .25 calibre. The purpose of this law apparently is to outlaw the use of the .22 rifle to kill big game for property damage at a time when hunters are not in the woods with heavier rifles to finish the job and make the kill which the smaller bullet failed to do. The property owner is not permitted by law to follow and kill the deer beyond his own land boundaries.

The writer has on several occasions been criticized by readers of "Game News" for publishing in his Questions and Answers column that the use of a .22 rifle for deer hunting is legal under existing law. Nevertheless, the fact is that at this writing there is nothing in the present Game Law to forbid a hunter in deer season from using a .22 rifle, except an automatic, on deer. The farmer or orchardist on the other hand must use a gun of larger calibre to protect his crops during the closed season. The law-makers evidently felt that there are sufficient hunters in deer season to finish off animals that have been hit by a .22. However, this condition does not justify the use of the small-bore rifle on big game, and it is the hope of many Pennsylvania hunters that the .22 will soon be outlawed for deer and bear hunting.

It may be of interest to law-abiding sportsmen to know that, since the passage in 1937 of the law prohibiting possession at night in a vehicle on the roadway of unwrapped rifles and ammunition larger than .22 calibre long rifle, the outlaws who habitually kill deer under a spotlight in Pennsylvania have taken almost unanimously to the use of the .22 rifle for their illicit night hunting. Since this rifle and its cartridges need not be cased or wrapped, it is much easier for them to use the small-bore rifle without being caught in an actual violation before the deer are killed. While the spotlifter is also responsible for a number of wounded deer that get away, his average kill even with the .22 is higher than the legitimate hunter in season, for the reason that his despicable light blinds the deer so that it stands still, an easy target for inflicting a mortal wound in the heart or head. The shots obtained by the legal hunter in season are not so advantageous, so that his chances of failure to inflict a mortal wound are much greater.

If we are to kill the deer or bear, let us give him a break by doing the job in a humane way. The experienced butcher does not choose a pen-knife to slaughter a steer. He uses instruments sufficiently powerful and efficient to kill the animal in the shortest possible time. Why, then, should the deer hunter use such an inadequate weapon as a .22 calibre rifle? While it may have sufficient power of penetration, it does not possess the shocking power necessary for a quick kill. It is in most instances as unsatisfactory, from the standpoint of success to the hunter, as it is undesirable for the welfare of the deer, for the chances of inflicting a mortal wound to immediately stop the animal are much less than they are with the hunter who uses a larger-calibre rifle.

The .22 rifle has its proper place in the sportsman's line of equipment. But let us, as sportsmen and humanitarians, use it in its place, and not expect it to perform a greater service than its manufacturer intended.

BENEFITS TO WILDLIFE IN AGRICULTURE PROGRAM

By C. C. FREEBURN

EARLY in January officials of the Bureau of Biological Survey of the Department of Agriculture called a conference for the purpose of discussing proposed changes in the 1940 program of the Agricultural Adjustment Administration to include wildlife benefits as by-products of soil-building practices. Representatives of the states of Iowa, Michigan, Missouri, North Carolina, Ohio and Pennsylvania as well as officials of all interested divisions of the Department of Agriculture were present. James N. Morton, Chief of the Division of Game Land Management, Pennsylvania Game Commission, was the representative from this State.

Mr. Morton reported that the A.A.A. pays benefits to farmers, first, for not exceeding crop allotments of corn, wheat, cotton etc., which allotments are determined by the A.A.A. Administrator and the State Committees, and second, for carrying on certain soil conserving and soil building practices.

Many of the practices for which farmers are now paid benefits are helpful to wildlife. The Biological Survey representatives who sponsored the meeting feel that additional practices beneficial to wildlife can be carried on which are likewise of value in holding or building soil. They are anxious to see the word "Wildlife" worked into the regulations of the A.A.A., even though many of the present practices are definitely helpful. It is their thought that some educational value will result by making the farmer realize that he is doing certain things not only for soil conservation but also for wildlife.

It is also their feeling that considerably more benefits for wildlife can be obtained if the A.A.A. officials will agree to amend and enlarge the provisions for receiving benefits under practices wherever applicable.

It was generally agreed by the conference committee that it would be better to take the set-up as it is now and make recommendations for corrections and additions which will enlarge benefits for wildlife and to attempt to have the A.A.A. officials incorporate this into their set-up for 1940. Meetings are already being held by the farm groups in some states to work up the program for next year, which will start about July.

Soil building and soil conserving practices which are beneficial to wildlife and which it was recommended should be enlarged upon are: planting food producing trees and shrubs; natural reseeding of certain areas by preventing grazing, cultivation and fire; seeding of food plots with species mentioned; prevention of grazing in woodlots, etc.

The A.A.A. is administered by Regional Administrators, State Administrators, and by County and Community Committees.

Last year almost three million dollars was paid in benefits to farmers in this State, part of it in crop allotment and part for soil-building practices. Nearly 75,000 farmers in the State have benefitted from the A.A.A. practices during the past couple years.

Following the Washington Conference, the Agricultural Adjust-

ment Administration gave careful consideration to the recommendations regarding the changes in the 1940 program and a memorandum was addressed to all State Chairmen of the North Central Division in which it was pointed out how cooperation with government and state conservation officials would prove mutually helpful. Some of the advantages listed are:

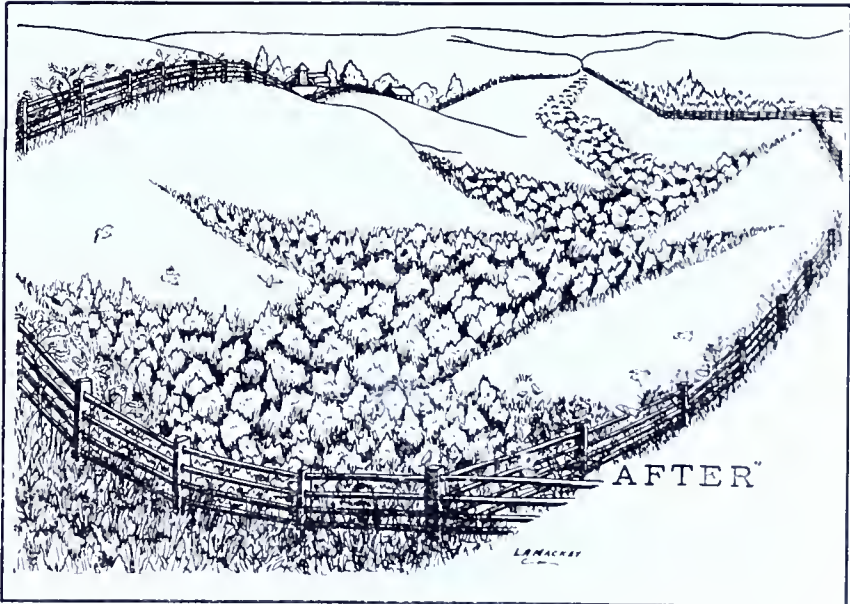
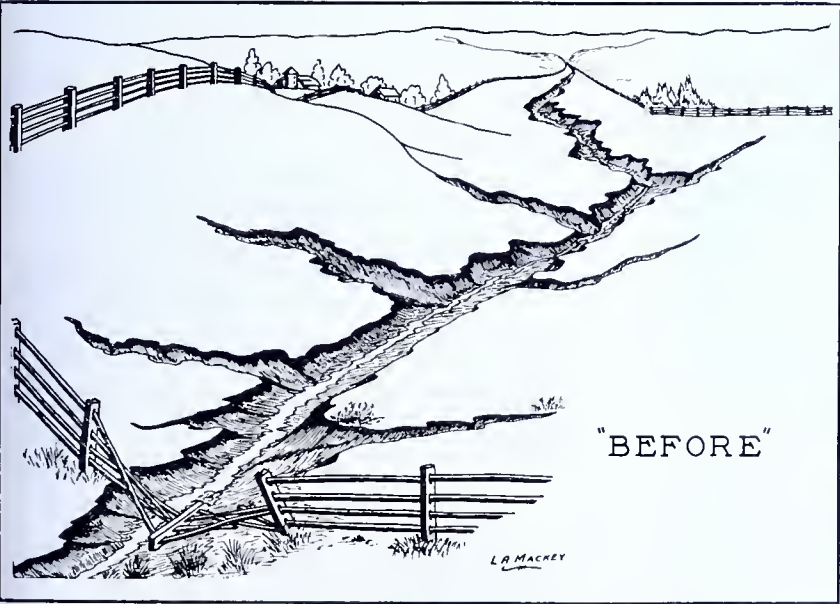
1. Through the efforts of State representatives of the wildlife program there may be more soil-building practices carried out on farms.
2. Through the publicity and educational organizations of wildlife representatives, the A.A.A. may benefit by the encouragement given to farmers to participate in the agricultural conservation program. It will be seen that if sportsmen in cities, towns, and villages are aware of the provisions of the 1939 Farm Program, which encourages the conservation of wildlife, their attitude toward participation in the program will be materially improved. They will be more likely to bring land which they own into the program and to encourage others whom they meet in business associations to do the same.
3. It is believed that county and community committeemen will also have an additional talking point to encourage farmers to participate in the agricultural conservation program and to carry out certain soil-building practices. Those active in administering the 1939 Agricultural Conservation Program should take advantage of every opportunity to obtain sportsman's and consumer's interests as well as farmer's interest.

This memorandum went on to point out the practices under the present Agricultural Conservation Program which benefit wildlife. In Pennsylvania these included:

1. The planting of trees and shrubs which provide both food and cover.
2. Excluding livestock from farm lots will provide better food and cover conditions.
3. Seedings of legumes and grasses provide food and cover and increased nesting areas.
4. Improvement of depleted pastures by re-seeding improves the nesting grounds and increases the food and cover for wildlife.
5. When cover crops are grown and not pastured or harvested food and cover for wildlife is provided.
6. Strip cropping provides ideal nesting grounds for wildlife in and near food.
7. Terrace outlets when properly seeded provide food and cover for wildlife.

Recently representatives of the Division of Management, Pennsylvania Game Commission and officials of the State A.A.A. met and discussed this subject at some length.

(Continued on Page 32)



Planting of trees and shrubs provide food and cover for wildlife and prevent erosion.



SAVE THE WOODCHUCK

The following is an open letter from Hon. John M. Phillips, grand old man of Conservation and first President of the Game Commission, expressing his views on this popular animal.

I am pleased to note that the Game Commission has at last succeeded in dignifying our old friend the groundhog by making him a game animal, and placing a limit on him.

This has been tried a number of times, but the farmers always objected in spite of the fact that he was to be privileged to dispose of them on his farm in any manner desired when they were doing damage. There are thirteen million acres of forest land in the State, much of it rough and rocky, where the groundhog could live without doing any damage.

We all know that the rabbit is the foundation of our Pennsylvania Game System but without the groundhog, the rabbit who cannot dig holes, would have no secure cover from weather or predators, for it is the groundhog who digs him his frost-proof cellars—and one groundhog will dig many of them during a season. Besides, ringneck pheasants also seek cover in the little chap's dug-outs. You will remember I called the attention of the sportsmen's meeting at Harrisburg last Spring to the fact that one man, using an automobile and high powered, telescope-sighted rifle, had killed 23 groundhogs in one day, and was so proud of his kill that he had the animals photographed, and another man killed 17 in one day, just for rifle practice. This if continued would have meant extermination for these animals.

But, I think they are still threatened with extermination because the legislature made a mistake in fixing the season, so as to allow the animals to be shot in the Spring when they are

having their young. This not only means extermination, but is cruelty to animals, as the young will starve in their holes. Actually it is a matter for consideration by the Humane Society. They should not be hunted by dogs and dug out of their holes.

If the groundhog is to be really protected, our Game Commission should be given the power to regulate the season. The season should be changed so as to stop Spring shooting and to permit killing them only in the Fall—say after September 1—when the young are almost fully grown, and the crops have been harvested.

This would also save human life, as I note from my clippings that there were many groundhog hunters killed by riflemen who from a distance mistook the backs of their heads for groundhogs as they crept through the high weeds and grain last Spring and Summer.

As you know, the groundhog is a strict vegetarian of the squirrel family, and a delicious food. We must teach our sportsmen this fact. If the glands behind the shoulders are removed within a half hour after the groundhog is killed, and the animal is soaked in a solution of baking soda or salt over night, then par-boiled, cut in slices and fried like chicken or roasted whole with trimmings like a suckling pig, it is one of the most delicious game animals in America. The taste is between fried chicken and pork.

The groundhog is one of our finest game and food animals and should not be exterminated as vermin.—John M. Phillips.

IN MEMORIAM

Pioneering in conservation and game preservation was recalled vividly upon the death of Mrs. Joseph Kalbfus, on March 5, wife of that venerable sportsman and nature lover who helped establish the Game Commission and who gave up his general practice in Harrisburg to serve without pay as its first Secretary. Dr. Kalbfus had an adventurous career beginning as a frontiersman and hunter in Colorado when Indians were still on the war path, which later took him into a campaign against the Molly Maguires in Pennsylvania's anthracite coal region.

Dr. Kalbfus was killed on August 10, 1919, when the automobile in which he was riding was struck by a locomotive. He and other officials of the Commission were on their way to inspect several tracts of game lands.

Mr. William C. Ryder was appointed a Game Land Technician, effective February 20, 1939, and assigned to Division "G." A large portion of his time will be devoted to the Cooperative Farm-Game Program, especially improving food and cover conditions.

Game prosecutions during February totalled 190 and penalties \$33,610.25.



Game Protector Francis Jenkins points to sign used on all propagation areas.

The new "duck stamp" to be issued on July 1 for the year 1939-40, sixth in a series chosen each year from the hoard of a well-known artist, will be from a drawing by Lyn Bogue Hunt, says the U. S. Biological Survey. It will succeed designs by J. N. (Ding) Darling, Frank W. Benson, Richard Bishop, J. D. Knap, and Roland Clark.

Mr. Hunt has chosen for his subject a male and female green-winged teal standing at a marsh edge. In the background five teal are descending for a landing.

Available at first and second-class post offices, the "duck stamp" may be purchased singly, in blocks, or in complete sheets of 28 stamps. Unsold issues are required by law to be destroyed after the year of issue has expired and can then be obtained only from stamp collectors, dealers, and others willing to part with them.

During February title was taken to 18 tracts of land in three counties, comprising 1,005.8 acres, bringing the aggregate area of State Game Lands to 594,329 acres.

CURRENT TOPICS

NOTES FROM THE FIELD

"The other day I had an opportunity to witness an amusing bit of family life among the deer at the Loyalsock Game Farm. In my regular round of duties I weigh twenty-four deer every day, among which are two pens of yearlings. The one pen contains a spike buck and an exceedingly timorous doe. It has always been the habit of the buck to keep the doe in constant fear by using his "spikes" to keep her from the feed box or water pail as he pleased.

"When weighing, it has been habitual for the buck, immediately upon command, to run through the gate and onto the scales. On this particular morning when the command was given, he began to run around the inside of the pen and would not go near the gate. This kept up for perhaps two minutes with the doe merely standing in the center of the pen and watching the proceedings, apparently uninterested. Suddenly she ran over to the buck, reared upon her hind legs and struck him several times across the back with her front feet. "Spike" took one quick look and ran obediently out the gate and onto the scales. Furthermore, he hasn't once refused to leave the pen upon command since that day.

"It appears that in some cases the female deer may 'wear the pants in the family' as well as female human beings."—Roger M. Latham, Game Protector, Lycoming County.

"Red foxes brought into the Conneaut Lake Fur Post were cut open to see what they were eating. No report was given me of the contents, but out of 11 females 9 were with young, 2 were carrying 9 kits each and the total for the 9 was 68 young. I did not see these foxes but was given the above information by W. A. Jackson, Conneaut Lake."—Refuge Keeper Bert L. Oudette, Crawford County.

"On January 23 I saw a woodchuck although the snow was a foot deep and the temperature was near zero. It was very thin."—Refuge Keeper E. E. Hunsinger, Potter County.

"I have been feeding a covey of 15 to 20 quail right here in the little village of Dingman's Ferry. These birds are quite tame and appear to be in good condition."—Refuge Keeper Harold Harter, Pike County.

"Many men die at thirty-five (35), but aren't buried until they are sixty-five (65)", says Game Protector W. W. Britton, of Chambersburg. Let's keep alive by striving to grow and expand mentally.

E. W. Carpenter, Refuge Keeper of Game Lands No. 13, Sullivan County, reports the killing of a yearling deer by a wildcat.

Earl Smith, Refuge Keeper, Elk County, reports seeing one of the first woodcock in Jefferson County, Young Township, on March 12, 1939.

"Have noticed sumac and small trunks of apple trees completely barked as high as the rabbits could reach in sections where no food has been put out. Very little barking done on game lands where plenty of food was put out."—Refuge Keeper Fuller Coffin, Erie County.

"Today (March 6) while putting out ear corn in Refuge 51-A I came across a place where a raccoon had caught and eaten a ground squirrel. There was nothing left of the squirrel except part of its head, tail, a very few entrails, and hair."—Refuge Keeper George Sprankle, Fayette County.

Troy C. Burns resigned as District Game Protector of Butler County effective January 31, 1939 after serving exactly seven years in that position. Mr. Burns entered the service of the Commission on February 1, 1932. His many friends in the Game Commission wish him every success in any future undertaking.

Vern VanOrder resigned his position as Traveling Game Protector of Division "F" with headquarters at Marienville, Forest County, on January 31, 1939. Mr. VanOrder was a member of the class graduating from the Training School in March, 1938 and has filled the position of Traveling Game Protector since that time.

"Feeding game by radio has worked out very good this winter. Advance knowledge of storms received by radio gave us a chance to get the feeders filled beforehand."—Refuge Keeper Elmer L. Pilling, Centre County.

Refuge Keeper Claude B. Kelsey, Cameron County, has observed large herds of deer feeding in various parts of his county since the close of the large game season. While on patrol on March 24 he noted 37 deer feeding in one field.

DENIED RIGHT TO HUNT

Seventy-two additional persons were denied the right to hunt in Pennsylvania by the Game Commission at a recent meeting. This is the only means the Commission has of bringing some violators to task, and it shall take such action whenever the circumstances warrant.

A considerably larger list will be given consideration by the Commission at its mid-year meeting.

"I had a bunch of men working on the road when they heard something squeaking. Upon investigation they uncovered a nest of three young rabbits against the roots of a tree. One of these sharp-nosed, stub-tailed ground moles had made its way up under the rabbits, and had sucked the blood out of one, and had another one by the foot which it had all chewed up. I would like to know if you ever heard of them killing rabbits before this. I wonder if they would do the same to birds that nest on the ground?"—L. Crawford Roberts, Waynesburg, Pa.

Twenty-five members of the Nature Club of Penn High School, Greenville, Pennsylvania, enjoyed a hike at Pymatuning Dam on March 25th under the supervision of Nevin K. Smith, science instructor at the school. Refuge Keeper Oudette met the group at the museum, and gave an excellent talk on the exhibits therein. The journey then resumed with the Pymatuning reservoir as objective, the trip being made via the causeway and Andover. Mess was served at the picnic grounds of the dam and at 1:15 "retreat" was sounded.

Refuge Keeper H. F. Hoffman, Susquehanna County, has noted deer feeding on the slopes and fields where the snow has melted. The herds range from six to thirty in number.

(Continued on next Page)



Photo courtesy Gazette and Daily, York, Pa.

The Game Commission lost one of its most faithful workers, and the Sportsmen one of their best friends through the retirement of Game Protector W. C. Stevens, of York County. "Scotty," as everyone knew him, was beloved by his brother officers and sportsmen friends alike. Here he is (center) receiving his honorable retirement certificate from the Commission as presented by R. A. McCachran, Division of Game Land Acquisition. Left to right: Rev. J. B. Baker, Rev. Darlington B. Kulp, president of the Pennsylvania Division, I. W. L. A.; Harry W. Stark, president of York chapter, No. 67, I. W. L. A.; "Scotty," Mr. McCachran, and Ray Klnsey, chairman of the Entertainment committee of York chapter.

CURRENT TOPICS



Photo by Howard George, Harrisburg, Pa.
Ringnecks on the wing.

Agreements for a total of 3,327 acres of farms were secured during February under the Cooperative Farm-Game Program. This brings the aggregate area of farms covered by agreements to almost 78,000 acres. Recent computation indicates that the cost of the program since it was inaugurated over two and one-half years ago aggregates about 32.8¢ per project acre per year, which is somewhat higher than the cost of managing our state-owned lands.

Correction—on Page 12, column 3, under GAME PROSECUTION, penalties during February should read \$5,654.50 instead of \$33,610.25.

Approximately 700,000 evergreen seedlings and 200,000 game food producing trees, shrubs and vines were planted during the early spring on state game refuges and lands. The 700,000 evergreens were secured from the Department of Forests and Waters and the game food producing species were raised in Commission's nurseries. Since the supply of game is largely dependent on the quantity and suitability of food available during winter months, the Commission is endeavoring to increase the number and distribution of plants wherever possible.

NOTES FROM THE FIELD

(Continued from Page 13)

The Bedford County Federation of Sportsmen's Clubs met on March 23 at Loysburg, over 600 enthusiastic sportsmen and sportswomen throughout the county attending. It was a splendid banquet followed by a large program of entertainment. Principal speakers included Hon. Wm. G. Fluke, Member of the Game Commission; M. C. Merritts, Vice-President of the Federation; Benjamin Gipple, Member of the Legislative Committee of the Federation and Leo A. Luttringer, Jr., Editor of the GAME NEWS.

(Continued on next Page)

HUNTERS PAY 12 MILLIONS FOR THEIR LICENSES, STAMPS

Hunting licenses totalling 6,860,000, for which sportsmen of the United States and Alaska paid \$11,348,006, were issued in 1937, the latest year for which figures are available, according to the United States Bureau of Biological Survey.

Federal stamps, at \$1 each, required of migratory waterfowl hunters in addition to State licenses, brought an additional \$783,039 to swell the total to \$12,131,045 which American sportsmen paid.

The reports, says the survey, show the number of hunters to be increasing at the rate of one million a year, with Federal duck stamps increasing about 150,000 a year.

In the following tabulation of the states in which the largest revenues were received, the entries marked with an asterisk indicate combined hunting and fishing licenses:

State	Resident Licenses	Non-Resident or Alien Licenses	Total	Money Returns	Federal Duck Stamps
California	218,569	780	219,349	\$432,433.00	52,577
Illinois	273,124	1,015	274,139	361,390.75	51,333
Indiana	431,634*	407*	432,041	456,050.22	12,311
Iowa	129,800*	48*	129,848	162,758.50	25,427
Michigan	646,314	3,631	649,945	893,654.00	56,888
Minnesota	213,782	215	213,997	254,835.20	97,609
Missouri	155,047*	814*	155,861	249,746.00	16,469
New York	601,243*	4,215*	605,458	1,137,035.08	23,286
Ohio	507,545*	187*	507,732	510,350.93	14,662
Pennsylvania	597,525	8,352	605,877	1,256,850.30	5,613
Washington	199,599*	84*	199,683	483,720.50	41,060
West Virginia	173,921*	936*	174,857	246,354.00	446
Wisconsin	237,899*	323*	238,222	227,346.20	61,783

SPECIAL OFFER

The new Wildlife Bulletin which is proving very popular is now being offered to sportsmen's clubs, schools, scouts, etc., at the bulk rate of 15¢ each for 20 or more copies consigned to one person. The bulletin sells individually for 25¢. Many Sportsmen's Associations will no doubt wish to purchase generous amounts for distribution to school children.



The end of a successful wildcat hunt sponsored by John B. Ross, Div. Game Supervisor, and Geo. Cross, Fish Warden. The cat was taken alive for exhibition purposes.

CURRENT TOPICS

NOTES FROM THE FIELD

(Continued from Page 14)

About one mile north of the village of Point Pleasant, Bucks County, is situated a frame house, dating back to the busy years of the historic canal that in former days connected the "hard coal" regions of Pennsylvania with Philadelphia. This house was built upon the side of a hill, overlooking the then heavily traveled canal. It is constructed of oak and hickory planks, salvaged from discarded barges.

Today the house stands completely modernized, and is used for a summer cottage by the Bunting family from Philadelphia. In remodeling the house the exterior was covered first with yellow pine boards and then finished off with cedar siding and shingles. The siding covers what can be referred to as the first floor. The remainder of the sides and roof is finished with shingles, while the trim and the eaves are of white pine. The whole house, with the exception of the eaves and trim has been stained with green creosote oil.

Up until the fall of 1937 the Buntings had enjoyed their vacations in that historic setting of Bucks County and derived great pleasure from the multitudes of birds that nest there each summer, and which use the Delaware Valley as a flyway during migration.

In September of 1937 some of the birds, that had been such a delight for so many years, became a menace—the woodpeckers. They descended on all corners of the house and with their rat-tat-tat bored many holes in the shingles, eaves and trim. It was a busy time for Mrs. Bunting for she had to be constantly on guard to combat their destructive attacks. Even then much damage was done. Many holes were bored clear through the shingles. When cold weather approached and the birds moved south, Mrs. Bunting relaxed her guard and set about to find out what caused their strange attacks. The Academy of Natural Sciences, The University of Pennsylvania, an entomologist, and several ornithologists were consulted, but no one could explain the peculiar behavior of the woodpeckers. Nor could anyone suggest a cure.

Game Protector H. H. Rickert was called and made several examinations, even removing the shingles in places, but nothing, not even insects, was present. Mrs. Bunting inquired of her neighbors and found that the birds had not bothered their homes.

Repairs were made, but alas, the following year all woodpeckers again did their damage. This time not only the house but a small outbuilding was damaged. The pecking is done only at the corners, on either the creosoted shingles or on the white pine eaves and trim, which is painted white. Never on the siding or in more than three feet from the corners.

This year Mrs. Bunting would like to go to California but she is afraid that if she does, when she returns next winter her house will be practically destroyed by the woodpeckers.—
H. Palmer.

Vernor T. Warfel, Superintendent of the Jordan Game Farm, Lawrence County, was recently transferred to the Fisher Game Farm, Montgomery County, vice E. C. Smith resigned.

(Continued on next Page)



Game Protector Max Ostrum, Cameron county, showing where deer have peeled the bark from a number of slippery Elm trees; some places the trees have been stripped to a height of six feet.

John G. Kennedy, Game Protector, Crawford county, reports that Professor B. Helfridge, of Colestock, inaugurated a course of wildlife study, game management, game laws, etc., into the high school curriculum last year.

Warren W. Ohlman, Game Protector, Potter county, reports that the wild turkeys in his section wintered well and that he saw recently flocks of eleven, seven, six and eight. A white gobbler was in one of the flocks. He also saw a raven in the vicinity of Big Trestle, Stewart's Township, making the second one observed in Potter County since he has been stationed there. He saw the other bird in the vicinity of the McConnell Farm, Wharton Township, two years ago.

Game Protector R. P. Schmid, Warren county, writes that the grouse came through in his section in excellent shape and that they have a fine supply of breeding stock. Quail are also recovering rapidly from the severe setback they received three years ago, and squirrels and rabbits are very abundant. He claims that about 60 Great Horned Owls were presented to him for bounty during the past several months, most all of which were caught in pole traps.

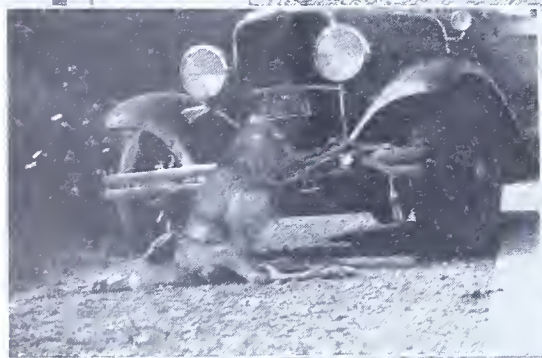
Donald Keefer, former employee of the Division of Education, of the Commission, recently graduated with honors at the New York College of Dramatic Art.



Proof of Pennsylvania's fame as a fur-bearing animal state. Interior of warehouse of Wm. Jackson, fur dealer, Conneaut Lake, Pa.

CURRENT TOPICS

MR. AUTO DRIVER: PLEASE GIVE WILDLIFE A "BRAKE"—DRIVE CAREFULLY!



NOTES FROM THE FIELD

(Continued from Page 15)

Game Refuge Keeper Walter Zellers recently supervised the making of a game census on three areas of Game Lands 36 and 12 with the aid of the boys from CCC Camp No. 103 at Laquin. He reports as follows:

"This Game census proved quite interesting. The first area censused was in Long Valley on top the mountain on Game Land No. 36. That was on March 14. The day was very dark and cloudy and the wind was out of the south and very strong. We had 120 men for the work. The area censused was about 250 acres surrounded by a road on each side. Watchers were placed on three sides and the drivers were placed about 10 feet apart. On this drive we counted 18 deer, 26 gray rabbits, 2 hares, 8 squirrels, and 26 grouse. No animal or bird was counted twice, as the men only counted those that went through the drive, and only to the right of each man.

"The second drive was made on March 17, on Game Lands 12, at Cabin Run. The day was very cold, and the wind was in the north. This drive was made in a stand of second growth timber, very little cover. Had 140 men. Drove about 250 acres. We counted 8 deer, 9 rabbits, 7 grouse, 4 squirrels, 2 weasels and found 6 dead deer.

"The third drive was the same day on No. 12 back of headquarters toward Holcombe Pond where we have done some cutting. This area was about 300 acres. On it we counted 45 deer, 16 rabbits, 7 grouse and 9 squirrels. This area had a swamp in it.

"For the total of approximately 800 acres our figures showed: 71 deer, (1 deer to every 11 acres); 53 rabbits, (1 rabbit to every 15 acres); 40 grouse, (1 grouse to every 20 acres); 21 squirrels, (1 squirrel to every 38 acres).

"We certainly appear to have a very good supply of game on Game Lands No. 12 and No. 36. This census was taken on what I would call about the poorest hunting ground."

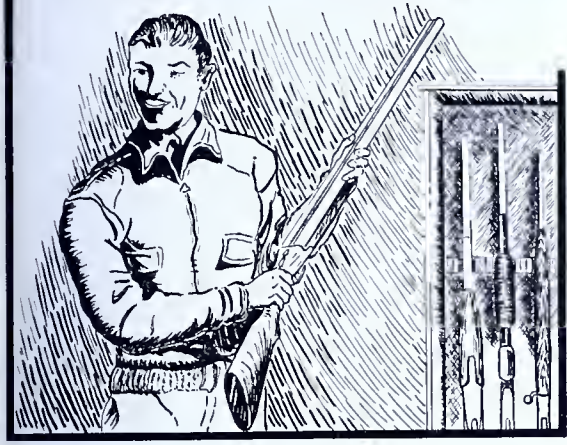
Muskrat houses along streams are not usually of the type found on marshes, but in the past fall and winter, I have seen along Middle Creek in Snyder County five houses similar to those built on marshes. One house stood 3½ feet above normal water level. All the houses were washed out by high water in the fall and early winter.

When freezing weather sets in during the fall and early winter months, muskrats will plug the holes leading into bank dens. Usually all kinds of vegetative material and debris are used in constructing these plugs. This last fall I found the following peculiar plug materials used: horse skull, cow skull, sheep skull, tin cans, pint-sized milk bottle, and rope. Along Middle Creek, Snyder County, it seemed to be the vogue for muskrats to finish off their plugging jobs by laying several large-sized sycamore leaves over the rest of the debris.

Early this Spring, Mrs. William Nepp, of McClure, Snyder County, saw, what I believe to be from her description, a Hungarian partridge. I have been on the lookout for Hungarians in Snyder County since last fall, but to date have seen none.—Doug Wade, Research Investigator.

CURRENT TOPICS

GUN TALK



The Plowed Field—Sportsman's Lie Detector

By J. R. MATTERN

IN future issues this section of the GAME NEWS hopes to present some ballistic figures in a brief and interesting form. We'll tie the technical stuff to its real application in Pennsylvania woods, including the inside dope on some of the new guns—and on some of the old ones.

This issue will try to clear away some of the brush, in order to provide an open space where some of the facts may be seen.

* * * * *

Let's approach the matter from the angle of the defunct .45-90 rifle.

Picture yourself in game country carrying a .45-90 Winchester Model 1886; or a Ballard or Sharps or Remington. The thing would likely weigh, with its 28-inch octagon barrel, about ten pounds.

"What's that you've got?" Bill Smith would ask, big-eyed when you'd meet him up along the creek.

"Oh, a young cannon. Just a young cannon," you reply, casually. Hot stuff, you, with your coat pocket sagging from 20 cartridges weighing nearly two pounds. You feel you can pick off the head of a grouse, or a water snake if you wanted to waste a shell; or reach over against the hill and wallop the daylight out of the biggest bear that grows.

Well, you and Bill try her out. There's a plowed hillside about a hundred yards away; and in the middle of it is a black clod that lays in the open sights perfectly. Seems as though

But you don't. Not by three, four, SIX feet. The soft lead slug plows up the dust low and to the right. You didn't think that 200 yards would put you down so low; or the brisk breeze drift you so far across.

In time, if you keep on shooting and watching, you learn how much to hold with that particular rifle and cartridge, in order to drop the lead slugs on or close to the black clod.

In these days we get no more .45-90s, but we do have in extensive, and growing use, the 12-gauge and 16-gauge roundball loads in shotguns. These balls weigh about the same, and start with about the same velocity, as the old .45s.

As fade-outs, however, they are remarkable.

Beyond 100 yards they have little more punch left than an ordinary revolver bullet, or a .32-20 rifle. Air drags back a round ball like an 18-inch snow tangles the tired legs of a hunter.

If you've never tried, actually tried, a shotgun ball load against a plowed hillside, you have a revelation coming to you. By all means do it this spring, when the chance is open to you. Don't be satisfied with kicking up the dust "pretty near," your object. Try to place a ball within an area the size of the game you might shoot.

As for power, the .32 Special (and other cartridges like it) retains more power at 100 yards and beyond than the .45-90 ever had. (100 yds. .45-90 has 1075 ft. lbs., the .32 Spe. 1450 ft. lbs.) Its bullet also falls less than half as much; and is drifted by the wind only a third as much. The guy now trotting around the hills with a carbine only slightly heavier than an old single action Colt's Peacemaker,

therefore, is heavier armed than the big-gun hunter of a few years ago.

You'll find your soft-points and open-points from your .32 Specials and .30 calibers, not to mention the .250s and .270s and high speed .35s, to deviate only one or two feet from the black clod in the middle of the plowed field, instead of three to six feet.

Which remark, "You will find" brings us to the real nub of this matter.

The question is: Do you have any definite idea of how much the wind blows your bullet at 100 yards, or 150 yards, or 200 yards? Can you picture, from observation, just about how far down your bullet will actually strike at these game ranges.

And, most important, do you have any exact idea of how large a space is required to catch ten of your bullets at these distances?

It sums up to this: With your usual sighting, the rough, creeping trigger pull on your

gun, the variation between different lots and brands of cartridges, where do *your* bullets go? Some hunters need a bed sheet to catch them all; others can put them on a groundhog.

Can you rely on yourself to hit game; or must you base all hopes on making one lucky shot in a burst of five?

The shotgun user can derive a lot of pleasure and benefit from the plowed hillside or cut-bank of a stream, with a Sunday newspaper to help. Recently a buyer of a new double gun purchased two boxes of shells; and then proceeded to swap shells among his friends until he had ten sample lots of different brands and loads. Then he tried them in his new gun, against sheets of paper and clay banks, carefully checking the shot patterns for evenness and density. This man knew that a shotgun would not handle all loads equally well, and that the difference was large. He knew that regular clean kills on birds and rabbits were impossible with the loads unsuited to his particular gun. He knew also that strong winds drift shot charges a foot or two, and that shot charges fall from line of aim. And the only way to familiarize oneself with these results is to watch the impact of the shot on a tell-tale object.

You must find a plowed field with a contented owner, of course. Preferably it should be tilted up on its edge, to some degree, as you find fields in Pennsylvania to an extent that astonishes and dumbfounds an Iowan. Particularly, your field must be sun-dried and wind-swept, for the puffs of dust kicked up by your bullets are what you're really after. A rainy day won't do.

And certainly the background must be safe, with no near neighbors and no pasturing stock in sight. The soft ground, wholly visible over a wide area, provides completely safe shooting.

When you try your gun and your knowledge on such a field, you are accomplishing more to build up your own enjoyment of shooting than you can at any other time of the year. And by eliminating non-wasteful shooting, you're accomplishing more to conserve game than you will in any other way.



Photo by John Lohmann, Game Protector.

Fawn, found in exhausted condition and killed by Protector Lohmann. Its intestines were impacted with alfalfa eaten from the plie lying behind it. It is Protector Lohmann's belief that in cold weather alfalfa should be placed out in only small amounts, and well salted so the animals will be forced to drink sufficient water to prevent subsequent impaction.



NEW CLUBS

Buffalo Valley Sportsmen's Association—Earle Croyle, Worthington, Pa., Secretary.

Another new club just got off to a splendid start with 104 paid-up members. This group, known as the Delaware County Field & Stream Association, will "go places" during the next few years. They have scheduled their first field day for May 7. There will be trap and rifle shooting, archery, bait and fly casting, surf casting, and other activities. Its officers are Wm. H. Everman, President; Harry Sauers, Vice-President; Richard Newman, Secretary; and Al Deger, Treasurer.

Beaver County Junior Sportsmen—Delmar Wiley, Secretary.

More than 230 sportsmen attended a testimonial dinner for Hon. G. A. Stewart, Secretary of the Department of Forests and Waters, at Clearfield, on March 23, under the auspices of the Clearfield County Federation of Sportsmen's Clubs. Hon. Howard Stewart, former member of Game Commission, presided as toastmaster.

Among the guests present were: Senator A. H. Letzler and Representatives Edward A. Clark and C. G. Krise, and two Representatives from that District, Wm. J. Thomas, Editor of the *Clearfield Progress*. James N. Morton, Randolph Thompson, M. E. Sherman, Clyde Decker, and Wm. J. Brion, of the Game Commission, Alex P. Sweigart of the Fish Commission, many officials of the Federation from adjoining counties, including Joe Barkley, Punxsutawney, secretary of North Central Division, William Munsell, treasurer, W. E. Guckert, secretary of Allegheny County Sportsmen's League, and A. F. Menzemer, treasurer of Southwestern Division. Sixteen federated clubs of Clearfield were represented.

Over 400 men and women enthusiasts of the great outdoors attended the rally of the Lackawanna County Federation on March 22. The gathering, in commemoration of National Wildlife Restoration Week, was a huge success. M. C. Merritts, Vice-President of the Pennsylvania State Federation of Sportsmen's Clubs and Charles W. Wessell, Chief of the Division of Game Propagation and Distribution, were the principal speakers. Guests of honor included Hon. John H. Price, Member of the Game Commission; Norman H. Farnham, of Honesdale, Chairman of the Northeastern Pennsylvania Division of the Federation; Jay C. Gilford, Division Game Supervisor and Robert Lichtenberger, one of the assistants at the Game Commission Training School. Jack L. Neiger, President of the Lackawanna group, served at toastmaster.



Members of Tri-County Fish and Game Association, upper Dauphin county building holding pens for ringneck pheasants. The association expects to rear over 1,000 birds this year. In the lower photo are boys from the consolidated school of Dalmatia making quail holding pens for the association.

WITH THE CLUBS

WINNERS IN BERKS COUNTY FIELD TRIAL ASSO., MARCH 26

Over 700, a record-breaking gathering attended the Annual Banquet of the Consolidated Sportsmen of Lycoming County on March 28. Colonel Nicholas Biddle, President of the Game Commission, was the principal speaker. The Rev. J. Ray Houser, presided as toastmaster. Guests included Seth Gordon, Executive Director of the Game Commission; John H. Price and Samuel C. Castner, Members of the Commission; Samuel J. Truscott, Member of the Fish Commission; Roger P. Tanner, Superintendent of the Federal Fish Hatchery at Lamar; W. Gard Conklin, Chief of the Division of Lands and Gilson W. Davis, also of the Division.

John C. Youngman, President of the State Federation of Sportsmen's Clubs; C. F. Royer, President, Southern Clinton County Fish and Game Association; B. S. Canabaker, Vice-President, Montour County Fish and Game Conservation Club; W. M. Foster, Secretary, Bradford County Sportsmen's Association; Charles H. Wentzel, Shamokin, Secretary, Fish, Game and Forestry Protective Association; C. A. Kniss, President, Union County Fish, Game and Forestry Protective Association; Frank Marshall, Lock Haven, Chairman of Central Division, Pennsylvania Federation of Sportsmen's Clubs; Oliver F. Klingerman, President, Columbia County Sportsmen's Association; Cody E. Roby, President, Tioga County Consolidated Sportsmen; Roy Snyder, Secretary, Montour County Fish and Game Conservation Club; and Edward Meehan, Sullivan County Sportsmen's Association.

Some splendid prizes were awarded to anglers who were lucky during the past year, among them two women—Mrs. George DeCubber, Sherman Street, Williamsport, who caught a wall-eyed pike, or Susquehanna salmon 29 inches long and weighing 7¼ pounds, and Mrs. A. A. Metzger, 64 Maple Avenue, Williamsport, rainbow trout 14¾ inches long. Mrs. DeCubber's was the longest and the heaviest fish caught last year in the county.

Other winners included B. G. Grasso, English Center, and George White, South Williamsport, tied for first in the brook trout class, each hooking one 14½ inches in length; brown trout, John Maggs, 353 Hastings Street, South Side, 24 inches, 7 pounds; small mouth bass, G. E. King, 1700 East Third Street, Williamsport, 20¾ inches; pickerel, Charles George, 2347 Linn Street, city, 23½ inches, 2 pounds 13 ounces.

Richard E. Bishop, nationally-known artist, author, lecturer and photographer was also present. Included in the program were some of his outstanding color motion pictures of flying ducks.

The first of a series of meetings to promote farmer-sportsman relations was inaugurated recently by the Montour County Fish & Game Conservation Association.

Sportsmen from the heart of the big game country moved to take a more important part in game conservation and wildlife development recently when hunters, fishermen, and wild-lifers of Weedville, Caledonia, Cardiff, Gardner Hills, Force and Byrnedale, got together and formed the Jay Township Sportsmen's Association. C. R. Anderson, of Byrnedale, is Secretary.



Open Shooting Dog stake: left to right; John J. Shart, Westville, N. J., owner with White Way Pal, 1st place; G. Dawson Coleman, Rosemont, Pa., owner and handler, Carolina Ben Bean, 2nd place; Dr. Carl Williams, Phila., Pa., owner and handler, Hiker's Briar's Thorn, 3rd; W. J. Zimmerman, Synoak, Pa., owner and handler, Synoak Alex Kagen, winner special award, best Berks Co. shooting dog.



Open All-Age stake: left to right; Dr. J. M. Williams, Phila., Pa., owner and handler, Jake's Jane Proctor, 3rd place; Dr. Sherman Ames, Easton, Pa., owner and handler, Sherman's Dan, 2nd place; Mark Spaecht, Wisconsin, Pa., owner Sylvan Joe, 1st place.



Open Spring Puppy stake: left to right; Fred A. Medon, Plainfield, N. J., owner and handler, Dinah Mite, 1st place; Harry Reynolds, Phila., handler with Mohawk Sweet Briar, owned by Mrs. Clayton Platt, Phila., 2nd place; E. G. King, Annville, Pa., owner and handler, Kings Bean Essig, 3rd place.

WITH THE CLUBS



Annual banquet of the Lawrence County Sportsman's Association.

Over 400 sportsmen and dog fanciers attended the 13-inch beagle trials near St. Clair on March 5. Forty-two dogs from all parts of Schuylkill County and more distant towns in eastern Pennsylvania were entered, 28 competing in the 13-inch class and 14 in the 15-inch class. Winners in the 13-inch class included Bing, owned by Samuel Rogers, Pottsville, first; Tucquan Fannie, owned by Harold Lord, also of Pottsville, second; Frank's Dot, owned by Frank J. Wapinsky, of St. Clair, third; Treadeasy Flip, owned by Harry Wenzel, Tamaqua, fourth; and Rogers Boy, also owned by Samuel Rogers, as reserve.

Winners in the 15-inch class included Black Buck, owned by George Black, Summit Hill, first; Amerigato, owned by John Telesky, Berwick, second; Jo-Jo, owned by Charles Snyder, of Valley View, third; Beauty, owned by Chester Donald, Summit Hill, fourth; and reserve, Mutch Smutch, owned by Howell Weinland, St. Clair.

The Horton Township Sportsmen's Club, Brockport, Elk County, is making plans this summer to raise 500 ringneck pheasants. The club is also negotiating for a property on which to build a clubhouse.

Over 700 enthusiastic hunters and fishermen attended the Booster meeting of the Pioneer Fish and Game Protective Association at Allentown recently. There were speeches, movies, jokes, tall stories, lunch and refreshments. Robert J. Wheeler won the award for the "tallest" story.

Speakers included Hon. Charles A. French, Commissioner of Fisheries; Ira F. Thomas, scout for the Philadelphia Athletics; Samuel D. Frederick, attorney; William A. Moyer, Game Protector; and C. Joel Young, Fish warden. Robert E. Brader, clerk of quarter sessions, acted as toastmaster.

The Huntingdon County Game, Fish and Forestry Association held another of its famous banquets on Friday evening, March 24, with an attendance of well over 400. Principal speakers included James N. Morton, Chief of the Division of Land Management; M. C. Merritts, Vice-President of the Pennsylvania State Federation of Sportsmen's Clubs; Hon. Wm. G. Fluke, Member of the Game Commission; Ollie M. Deibler, former Fish Commissioner, Alex P. Sweigart, Editor of the *Angler* and Leo A. Luttringer, Jr., Editor of the *GAME NEWS*. A great many ladies attended the affair which is encouraging to say the least. Robert Simpson acted as toastmaster.

Election of Henry E. Ahlin, Everett, Mass., as president of the National Skeet Shooting Association, was announced from Boston headquarters of the skeet governing body following a special directors' meeting on March 22. Ahlin, whose association with shooting sports extends for more than a quarter of a century, succeeds Homer A. Tilton, Waban, Mass., who resigned the presidency after a two-year tenure of office, because of added duties resulting from his recent election as President of National Sportsman, Inc., publishers of National Sportsman and Hunting and Fishing magazines.



Photo by Chas. Brodton, Everett.

Part of the over 500 sportsmen and their wives who attended the annual banquet of the Bedford County Federation of Sportsmen's Clubs in March.



Pictured above at the banquet of the Lehigh County Federation of Sportsmen's clubs. Seated, left to right, C. Joel Young, fish warden; Judge James F. Henninger, William D. Reimert, speakers, and Clerk of Quarter Sessions Robert Brader, toastmaster. Standing, F. Al. Brown, president of the federation; Forrest B. Kiefer, first vice president; Charles H. Nehf, secretary; William A. Moyer, game protector, and Earl Cope, second vice president.

WITH THE CLUBS

Over 500 enthusiastic sportsmen and sports-women turned out for the Annual Smoker of the Lehigh County Fish and Game Protective Association at Dorney Park, Allentown, on April 12. Despite the fact that a blizzard tried to smother the warmth of spring, a gala time was had by all.

Resolutions asking the Pennsylvania Fish Commission to purchase the Trexler fish hatchery, in the Lehigh Parkway sector, and to increase the fishing license 50 cents was deferred until the association's business meeting April 27 at the Allentown American Legion home.

Samuel Lewis, former association president, presented both resolutions. The license fee increase resolution carried the proviso that all funds gained through the increased rate be earmarked for the purchase of streams and ponds which would become public fishing grounds.

Principal speakers included Hon. Charles French, Commissioner of Fisheries, and James N. Morton, Chief of the Division of Land Management of the Pennsylvania Game Commission. A splendid invocation and memorial was offered by Rev. Carl E. Neudoerffer, Pastor, St. Mark's Lutheran Church. The memorial was a tribute to buddies in the organization who passed away during the last year, and will become a permanent ceremony in all future programs of the organization. Reports on fish and game stocking were read by Fish Warden Joel Young and Game Protector William Moyer. The program was most ably handled by George Zimmerman, Master of Ceremonies.

Guests included: Charles A. Rowe, Doylestown; Ed. Haehnle, Bethlehem; Ed. T. Balderson, Morrisville; all officers of the Southeastern Federation of Sportsmen's Clubs which comprise five counties; Dr. Ira W. Edinger, Stroudsburg, former president of the Monroe-Pike Sportsmen's Association; Herbert Diehl,



Hon. Charles A. French, Fish Commissioner, seated in the center, was telling about "that big one" when the above picture was snapped at the Lehigh County Fish and Game Protective Assn.'s annual smoker at Castle Garden. Seated on the left is City Controller George Zimmerman, chairman, and on the right is James N. Norton, Chief, Div. of Game Land Management, of Game Commission. Standing, left to right, are Rev. Carl E. Neudoerffer, who offered the invocation, and Joseph Mellon, Fish Warden.

Harrisburg, refuge keeper for the Berks-Lehigh public hunting grounds; Leo A. Luttringer, Jr., Harrisburg, Editor of the PENNSYLVANIA GAME NEWS; Ira J. Bleiler, Palmerton, secretary, Palmerton Rod and Gun Club; Walter D. Readinger, Macungie, and Milton D. Knauss, Catasauqua, former county association presidents; Assemblymen Franklin H. Lichtenwalter and Tilghman J. Freed.

Following is an excerpted report of the Association for the past year as read by Charles Nehf, Secretary and well-known sports writer.

"Last year, at the close of our annual live trout fishing contest, we stocked 723 large trout in Cedar Creek, Dorney Park boating dam, and the Little Lehigh River.

The association, with the generous cooperation of the County Commissioners of Lehigh, also assisted the Unami Fish and Game Protective Association, Emmaus; Alburtis Rod and Gun Club, Alburtis; Macungie Rod and Gun Club, Macungie; and the Rural Sportsmen's Club in Upper Macungie Township, Trexlertown, in improving fishing conditions along 10 miles of water in the Upper Little Lehigh.

We ask the cooperation of all fishermen who either catch, or know of persons who catch tagged trout in the Little Lehigh, to report them to District Fish Warden C. Joel Young, George Zimmerman, or your secretary.

In addition to assisting the State Game Commission in its stocking program in Lehigh County, the association expended \$125.00 from its own funds for the purchase of one hundred 10-weeks-old male ringneck pheasants for liberation within open hunting territory in the county.

An educational program consisted of various meetings, including a father-and-son night when the boys who attended that meeting were given as compliments of the association, a booklet on Birds of Pennsylvania, published for a nominal sum by the Pennsylvania Game Commission; a program for sporting dog fanciers; one on forest conservation and its relation to wildlife restoration; and one on research."

Valuable prizes were awarded for catching the largest fish. Winners are as follows:

Brook Trout: Samuel Youkonis, Allentown, for a fish 14 inches long; girth 8"; weight 1 lb. 2 oz., caught April 15, 1938, in the Little Lehigh; lure, a worm.

Rainbow Trout: Charles B. Daubenspeck, Allentown, for a fish 19¼ inches long; girth 10"; weight 3½ lbs. Second, to Stanley Youkonis, Allentown, for a fish 19½" long; girth 12"; weight 2 lbs. 10 oz. Third, Samuel

Youkonis, Allentown, for a fish 16½ inches long; girth 11 inches; weight 2 lbs. 2 oz.

Brown Trout: Frank A. Savage, Allentown, for a fish 21¼ inches long; girth 12¼ inches; weight 4 lbs. 3 oz. Second, Stanley Youkonis, Allentown, for a fish 23½ inches long; girth 12 inches; weight 4 lbs. Third, Howard Gangwer, Allentown, for a fish 19 inches long; girth 9¼ inches; weight 2 lbs. 6 oz. Fourth, Austin Kunkle, Bethlehem, for a fish 18 inches long; girth 9½ inches; weight 2 lbs. 6 oz.

Small Mouth Black Bass: H. N. Reiff, Allentown, for a fish 16⅝ inches long; girth 11 inches; weight 2 lbs. 8 oz.

Large Mouth Black Bass: Rudolph E. Hassler, Allentown, for a fish 19 inches long; girth 13¼ inches; weight 4 lbs. 2 oz.

Calico Bass: Lottie J. Kunkel, Northampton, for a fish 12½ inches long; girth 10 inches; weight 1 lb.

Pickercil: Earl H. Burger, Allentown, for a fish 25½ inches long; girth 12 inches; weight 4 lbs. 6 oz.

Wall-Eye Pike: Frank A. Savage, Allentown, for a fish 24½ inches long; girth 13½ inches; weight 5 lbs. 7 oz.

The program ended with a fine demonstration of motion pictures in sound, including some of Field and Stream's latest. A large commercial exhibit including hunting and fishing paraphernalia, a splendid group of springer spaniels, and a fine display of the Fish and Game Commissions, including live hawks and owls, also attracted the interest of everyone present. A buffet luncheon was then served.

The Hempfield Farmers' and Sportsmen's Association, of Salunga, Lancaster County, got off to a good start the other night with 68 members. By-laws were voted on and adopted, and the club is now ready to start a comprehensive program of game management in that community.

Sing a song of six pence,
A pocketful of rye,
Four and twenty starlings
Baked in a pie.

John M. Phillips, pioneer conservationist and former Member of the Game Commission approached the Editor of the GAME NEWS at the National Wildlife Conference in Detroit on an interesting project. He referred to the starling nuisance and suggested that people eat their way out of their trouble. Mr. Phillips says that the proper way to discourage the annoying birds is to start after them with a knife and a fork and possibly a spoon for the gravy. He proposes the organization of starling luncheon clubs at which persons desirous of controlling the birds will lunch on them every week. A typical menu would be starling pie, and a noted chef is working out other ways of cooking starling—roast, pan-broiled, on toast, and baked wrapped in strips of sugar cured bacon.

Announcing a New Feature

IN undertaking the conducting of this department, I do so with the knowledge that I am a dog enthusiast, rather than a dog expert and I have no axe to grind, food, medicine or other gadget to peddle. In short, this is just a meeting place for all the 'good fellows' who own any breed of sporting or hound dog.

In line with the Commission's effort to provide informative and educational articles that will make *GAME NEWS* of real interest, benefit and value to you as a reader and sportsman; in this issue is inaugurated the new "Dog and Kennel Service Department".

The purpose of this department will be to render as much assistance as possible to our sportsman friends by answering any and all questions on the Care of your dog, breeding, health and training; recommending equipment that we have found best by test for the purposes intended; Outlining trips for you with your dogs; furnishing news of field trials and other events of interest to you as a dog owner or prospective dog owner; promoting the cause of conservation; and offering you practical tips and information.

In general, we want to help you experience the full measure of pleasure that can be had from owning a good dog; in giving it the best of care and in having it properly trained, and in good health.

We want you all to take a personal interest in this new department, and to know that it is at your service. Let us hear from you as often as possible. Questions or requests for information will be given thoughtful and prompt attention. If a personal reply is to be given to your inquiry, enclose a self-addressed and stamped envelope.

We should like to have your ideas on existing dog laws; field training conditions in your locality; your opinions will be of valuable help to us and we will print as many of your letters on these and other important matters relating to dogs as space permits.

You are requested to send in news of observations made during your trips afield, to describe any stunts, tricks or novel devices you have used in the training of your dog; to relate any unusual experiences while in the field with your dog; Your comments, be they bouquets or brickbats, are welcome; along with little notes on present or future events, brief stories, facts and "personalities" about your dogs, your friend's dogs and your sporting friends themselves. We want to give you *all* the 'news' in this, your very own dog department, that we possibly can and we will appreciate your cooperation. Oh yes! pictures of any kind are most welcome and will receive our serious consideration if they are clear enough for printing purposes, so send them along too with all the information you can give us.

Training Season is Over, but . . .

Now the training season is closed until August, but that is no reason for you to let 'Nellie' or 'Rover' tied up in the kennel for the summer months. If you have an old dog, a veteran of many a good day afield, don't neglect him just because the season is closed. Give him (or her) regular exercise during the week. Fifteen minutes every evening will keep BOTH of you in shape and you won't have to

YOUR DOG



It's Care—Health—Training

Edited by "DAVE" FISHER

EDITOR'S NOTE: Mr. Fisher would appreciate it if all queries were addressed to him at Hummels Wharf, Pa.

huff and puff in the fall when the season opens and you find it tough going. This regular exercise will pay you both dividends in better health and you won't have that run down and grouchy feeling at the office in the morning.

If you have just purchased a puppy, (and the wise sportsman who is interested in getting a new dog for some reason or other, will purchase a puppy now, rather than an older trained dog later)—during the summer months is the time for you to really get acquainted with him. Take him out in the field so he can get acquainted with the wonders of mother nature, so that the inbred instinct for the hunt will come to the fore; so that you and he can really get acquainted with each other and become Pals. Study his faults, if any, teach him the fundamentals of obedience now, without being harsh with him, and you will avoid a lot of trouble later. By the time training season rolls around both of you will be in excellent health and you will have him yard broke and his field training can begin in earnest. This first year he can go to grammar school under your tutelage, unless, you prefer that your dog be trained by a professional trainer, of the particular breed you have chosen, depending on your favorite sport.

It is not amiss here to mention in our introductory columns that to get the best out of your favorite sport; to get the best out of your dogs afield, you must practice conservation. During the summer months I take regular hikes into different sections of the country wherein I hunt with my dogs and do a bit of vermin shooting; a bit of planting of food in the out of the way spots and several friends and myself also purchase and liberate a few birds and rabbits in our favorite territories.

Bloomsburg - Berwick Beagle Club Annual Spring All-Age Amateur Trials

"Twin Hills" reverberated with Houndy music with 21 starters in the 13-inch, amateur all-age class. First place going to Blecher's Queen, owned by Clyde Blecher of Bloomsburg; Second to Wertman's Pearl, owned by Harold Wertman of Nescopeck; Third to Floretta Sue, owned by John Wesloskie of Shamokin and fourth to Drumm's Sandy, owned by Clarence L. Drumm of Bloomsburg.

In the 15 inch class with seven starters, Haywire Dan owned by Robert Weary of Shamokin, placed first; Second to Hacks Spotty, owned by Maynard Hack of Berwick; 3rd to Summit Nick, owned by M. J. Tomsho of Hazleton; Fourth to John Telecky of Berwick with Ameri-Gato, a show bred dog that ran a race to be proud of in comparison to dogs with field breeding. One of the finest balanced beagles I have laid an eye on in some time.

Hoffmans Fanny, owned by R. W. Feigles, RFD, Muncy was placed as the reserve winner.

The work of this group is to be commended. There was more interest shown in this trial than I expected and they had a really large crowd in attendance. Good sportsmanship was shown throughout and I have never seen two more capable and fair judges than Myron Moyer of Cressona and H. S. Smith of Shamokin who officiated at the event, fairly and impartially. They are dyed in the wool sportsmen and beaglers par excellence. I am glad to know them, and many others who were at this trial. I would like to write more about this trial but space is limited.

We will try next month to give you something interesting, with a bit of variety and spice—and shall be looking for letters from all of you who are interested in better dogs, better hunting, better sportsmanship. Until next month, then, I am your verra, verra good friend. Just . . . "Dave".

KEYSTONE SETTER AND POINTER TRIALS

Sylvan Joe, great lemon-marked pointer, owned by Mark Spacht, of Wiconisco, climaxed the Keystone Setter and Pointer Club's annual Spring Field Trials, by winning the All-age Stake, the feature of the two days events, at Sports Acres, near West Leesport. More than 5,000 sportsmen and sportswomen witnessed the trials both days.

The brilliant pointer, who captured the All-age stake last spring in the Keystone Trials, repeated over a field of thirty-one entries, to win the Harvey Noll trophy, the blue ribbon, and Berkshire Hotel Cup, a leg trophy.

Sylvan Joe handled by the nationally-known Bob Bell of Gettysburg, thrilled the crowd by ranging far and wide at top speed, and then set up like a statue, on three different occasions on birds.

Sherman's Dan, owned and capably handled by Dr. Sherman Ames, of Easton, was a close second, in the opinions of Judges John H. Miller, Clayton, N. J., and James Dearlove, of Westville, N. J. The black and white ticked setter drew much applause on the completion of his run.

Jake's Jane Proctor, owned and handled by Dr. J. M. Williams, of Philadelphia, took third

place, with a great ground heat, and two good steady finds.

Little Nancy, pointer, owned and handled by G. D. Coleman, of Rosemont, Pa.; Keystone Village, pointer, owned by F. W. Ewing, South Euclid, Ohio, and handled by S. B. Shade, of Mooresburg, Pa.; Tip's Manitoba Jake, old campaigner, the white and black ticked pointer of Mrs. Glenna Collett Vare, handled by Ed Vare; Hazel Hedge Peerless, English setter, owned by M. B. Huston, Philadelphia, and handled by Harry Reynolds, same address; and Ranger Andy Boy, pointer, owned and handled by C. W. Rose, Johnston City, N. Y., all showed well, along with the majority of this brilliant field. It was a tough stake to judge, but the decisions were enthusiastically received by everyone concerned.

Jersey entries carried off the major honors in the Shooting Dog and Spring Puppy stakes which were staged on Saturday, March 25.

Dinah Mite, an English setter, owned and handled by Fred A. Medom, Plainfield, N. J., outclassed twenty-one entries in the Open Spring Puppy stake, to win the Cacoosing Dairy trophy for first place, and a leg on the Kagen Sporting Cup. The Philadelphia entry, Mohawk Sweet Briar, English setter, owned by Mrs. Clayton Platt, and handled by Harry Reynolds, copped second; with King's Bean Essig, flashy and promising English setter, youngster, owned and handled by E. G. King, of Annville, Pa., right behind for third place.

In the Open Shooting Dog stake, special Richards Toy Shop trophy to best Berks County entry there was a large field of twenty-two classy competitors. White Way Pal, white and orange ticked English setter, owned by J. J. Sharp, of Westville, N. J., and handled by Jimmy Dearlove, same address, flashed splendid form to win the blue ribbon and Harvey Noll trophy for first place. Second was taken by Carolina Ben Bean, classy pointer, owned and handled by the well-known sportsman, G. Dawson Coleman, of Rosemont, Pa. "Ben Bean's" work was brilliant, but he failed to find enough birds to displace the Jersey dog. Hikers Briars Thorn, beautiful little English setter bitch, belonging to and handled by Dr. Earl Williams, of Philadelphia, was right in there for third honors.

The Berks trophy was justly awarded to Synoak Alex Kagen, white and liver ticked pointer, direct offspring of "Frank of Sunnyslawn," famous campaigner, owned by Charley Forrer of Camp Hill. Synoak Alex Kagen, is owned and was well handled by W. J. Zimmerman, of Synoak, suburb of Reading.

The judges, John H. Miller, of Clayton, N. J., and James B. Avis, of Woodbury, N. J., decisions were well received.—*R. Clyde Buck, Vice-Pres. & Publicity, Keystone Setter and Pointer Club.*

Outstanding success marked the Annual Banquet of the Shenango Valley Sportsmen's Association held at New Wilmington March 10. Over 200 sportsmen from New Castle, Sharon, Ellwood City, Bessemer and Evans City attended. Principal speakers included Hon. Charles A. French, Commissioner of Fisheries; Hon. Robert Lamberton, Game Commissioner and Hayes T. Englert, Division Game Supervisor. C. B. White, Lawrence-Mercer County Fish Warden, was master of ceremonies.

CENTRAL PENNSYLVANIA FIELD TRIALS

A drenching rain followed by blustery winds filled with swirling snow flakes, marked the Spring trials of the Central Pennsylvania Field Trial Association, held at the grounds of the Hollidaysburg Consolidated Sportsmen's Association, at Hollidaysburg, Pa., April 1 and 2. It was the largest trial ever held by this Association, drawing entries from the states of Pennsylvania, Virginia, Maryland and New York. [The local members served most admirably as hosts, doing all in their power for the convenience and comfort of the visiting sportsmen.]

The judging was in the capable hands of Mr. Leslie D. Kline, of Winchester, Va., and Mr. Elmer Pilling, of Phillipsburg, Pa. Jack Thomas of Round Hill, Va., assisted Mr. Kline in the Puppy stake, while Herman Garman, of Harrisburg, assisted Mr. Pilling in the Shooting dog stake. S. B. Shade, of Morresburg, and Bob Bell, of Gettysburg, judged the Irish Setter stake. All these gentlemen have been active in Field trials for a number of years, both as handlers and judges. Their placements met with general approval.

Puppy Stake

Five braces of dogs competed in this stake, the winner was Kiki Mike Teela, a white black and ticked English setter, owned and handled by Robert F. Bell. Second place was won by Iniquity, a white and liver pointer owned and handled by Charles Elder. Third place went to Rex, a liver and white pointer, owned and handled by C. M. Balliet.

Junior All-Age Stake

This stake was won by Dee Tee's June, white, liver and ticked pointer, owned and handled by Daniel T. McGill, of Hollidaysburg. June ran an exceptionally good heat for a dog of this age, ranging wide but under perfect control at all times. June had two finds in the bird field, one being handled satisfactorily, chasing on the other. Second place was won by Airmans Miss Solo, a white and liver pointer by Airmans Sir Jack, owned and handled by R. H. Chichester, of Stafford, Va. Miss Solo had two finds in the bird field but was unsteady and chased on both. The place was deserved by reason of the range and application. Third place was won by Lady Madison, a white, liver and ticked pointer, owned by Otis Carpenter and handled by Jack Forrer, of Camp Hill, Pa. Lady Madison, by

Frank of Sunnyslawn out of Ozarks Lady Roma, had one find in the bird field which was handled in a very satisfactory manner. She was exceptionally fast and had very good range and was very stylish. Third place was well deserved.

Novice Stake

This stake was won by Mc Bubb, a white and black pointer, owned and handled by Charles Elder, of Jersey Shore, Pa. Second place was won by Tuscalousa Scout a lemon and white pointer, owned and handled by Gregg Tyler, of Rixford. Third place was won by Jacksons Lady a pointer, owned and handled by Jack Thomas, of Round Hill, Va.

Open All-Age Stake

This stake was won by Shoal's California Joe, a white, liver and ticked pointer, owned by George H. Hetzel, of Cumberland, Md., and handled by A. K. Moreland. Second place was won by Travel Air, a white black tan and ticked English setter, owned and handled by John H. Barnes, of Connellsville, Pa. These two dogs ran in the third brace and gave a wonderful exhibition of bird work. Both dogs were credited with five finds in the birdfield and all of them were handled faultlessly. Each dog was also credited with five backs. California Joe deserved first place on account of his excellent style. Third place was won by Sylvan Joe a white orange and ticked pointer owned by Mark Spacht, of Wisconsin, and handled by Bob Bell. Joe had one find which was handled in a satisfactory manner, he also backed a find of his bracemates.

Shooting Dog Stake

This stake was won by Snowball Tyrus, a white and orange setter, owned and handled by Pat Reeder. This was a well deserved win by what proved to be the class of this field. His range was wide enough for a shooting dog and he was under good control at all times. He had three finds, all of which were handled stylishly and faultlessly. Second place was won by Pine Creek Queen, a white black and ticked setter, owned and handled by G. W. Dunkel. Third place went to Sunset Jerry, a white and orange setter owned and handled by P. S. Duncan.—Game Protector C. C. Brennecke.

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Winner of the \$100 first prize in the National Wildlife Week Poster contest, sponsored by the National Wildlife Federation, was Josephine Marie Bradshaw, of Memphis, Tennessee. Miss Bradshaw's poster portrayed a sunny dispositioned squirrel cheerfully dragging a bag of Wildlife Week stamps up a staircase of envelopes, stamping the way to wildlife restoration.

Sportsmen in the United States and Alaska paid \$11,348,006 for 6,860,010 hunting licenses in 1937, the latest year for which figures are available, says the U. S. Biological Survey. Federal migratory bird hunting stamps brought an additional \$783,039 in the same period, bringing the total for licenses and Federal duck stamps to \$12,131,045.

The Migratory Bird Conservation Commission has approved the proposed acquisition by the U. S. Biological Survey of additions to 21 refuges, in 18 States.

What makes a good bobwhite quail diet, and why, is the subject of a cooperative study now getting under way in the U. S. Department of Agriculture as part of the work with funds provided by the Bankhead-Jones Research Appropriation. Results of the study are expected to be helpful to quail propagators and also to those who wish to improve natural food areas for bobwhite in the wild.

Bobwhite quail will be propagated and fed experimentally at the Biological Survey's Patuxent Research Refuge, east of Laurel, Md. Laboratory studies will be made at the nearby Beltsville Research Center, in the Poultry Nutrition Laboratory of the Bureau of Animal Industry.

To remove troublesome down and pinfeathers from ducks after the heavy plumage has been plucked, melt three bars of paraffin in a shallow dish. Remove head and feet from duck, and then roll it in the hot paraffin until it is entirely coated. Let the paraffin cool until it has hardened, and then peel it off. All the pinfeathers and down will come off with it. Cost: about one-half cent a duck. Time saved: about 20 minutes.—E. C. Henrickson, Munising, Mich.—*National Sportsman*.

An Illinois hunter took home a covey of nine quail without firing a shot. The hunter's two dogs flushed the birds on a hill at the top of which was a high aluminum painted reservoir. As the birds attempted to fly over the hill, they crashed into the side of the reservoir, and broke their necks.

TULAREMIA

Calling tularemia "rabbit fever" does an injustice to the domestic rabbit, says the Bureau of Biological Survey. No case of tularemia in commercial rabbitries is on record and it is safe to say there is no danger in handling such rabbits, or in eating the meat.

Tularemia is found in animals other than the wild rabbit and sometimes infects humans. Contact with an infected rabbit or other animal, or even insects, may result in infection, even though there is no skin abrasion.

Although domestic rabbits are susceptible to the infection by deliberate inoculation, the manner in which they are maintained and handled in commercial rabbitries rarely exposes them to the infection.

Leaflet No. B.S.-5, prepared by the Bureau of Biological Survey, United States Department of Agriculture, Washington, D. C., discusses tularemia in rabbits. A copy may be obtained from the Bureau.

"FOUR THINGS"

Four things a man must learn to do,
If he would keep his record true:

To think without confusion, clearly;
To love his fellow-men sincerely;
To act from honest motive purely;
To trust in God and Heaven securely.

—HENRY S. VAN DYKE.

Many people insist that rabbits never blink their eyes. The naturalist Seton investigated this belief and found that, while rabbits' eyes don't wink nearly as often as those of humans, they do on occasion. After watching one rabbit for about seven minutes, Seton says the animal finally closed its eyelids very slowly and deliberately a couple of times then went right back to staring, without a single blink for another comparatively long period of time.

The newest thing in bird banding is the "sight band," a brightly colored ring fastened on the leg which can be identified without capturing the bird. Various colors are used in tagging a species, so as to give clues as to where and when the birds were banded. Last year, on ten gull rookeries along the Atlantic coast, 5,000 young herring gulls were banded in studying the migration habits of this familiar species, which has greatly increased under the migratory bird treaty act of 1918, according to the National Wildlife Federation.

Bats are creatures of mystery. No one likes them, and yet all of the bats in the United States live entirely on insects, including mosquitoes. Many bats go into the deep sleep of hibernation during the winter. Others, it is believed, migrate, but nobody knows for sure, the National Wildlife Federation reports. There are 46 kinds of bats in the United States, the largest being the mastiff bat of California, which is six and half inches long. If you are past 40 and your ears are good enough to hear a bat squeak, you have exceptional hearing. Just how a flying bat avoids obstacles in the dark is a puzzle to science.

Colorado, like a number of eastern states, needs more good riflemen in the hunting field each season to save its deer herds from the prolonged misery of starvation, according to the National Wildlife Federation.

The present deer population of the state is estimated at 120,000. The carrying capacity, determined by the winter forage available, is 150,000. Natural enemies, wolves and cougars, have been cut down in numbers until they are not an important factor in limiting the deer.

Another 50 per cent increase in deer will bring about the rapid destruction of winter forage reserves, and cause heavy losses through lack of food.

Oregon's beaver population is to benefit from a part of that state's Federal Aid in Wildlife Restoration funds. Money will be used in an attempt at reestablishment of beaver in suitable areas of the state. The Oregon Fish and Game Department is anxious to restore the beaver to something like its former abundance in that state, where it once was one of the most important wildlife resources.

Seth Gordon, Executive Director of the Commission, was guest speaker at a joint meeting of the Saginaw Field and Stream Club and the Saginaw Gun Club, Saginaw, Michigan on March 23, and Leo A. Luttringer, Jr., In Charge of Public Information, appeared before the Connecticut Federation of Sportsmen's Clubs on March 4.

Quail stamps at fifty cents each are sold in Kansas, the money being used exclusively to increase production on the State's two quail farms.

In the enforcement of fish, game, fur and conservation laws in the State of Kansas, the Department of Forestry, Fish and Game has taken the position that educational work is the major factor.

SCATTER LOADS

The antelope is its own worst enemy. Because of its natural curiosity the antelope cannot stand the presence of anything strange without investigating it. Hunters take advantage of this fact, and have lured thousands within range by lying low and waving a bandanna or a ramrod, or simply by throwing themselves prone and raising their feet in the air at rhythmic intervals. The antelope must investigate, and by so doing he comes too close to the business end of a hunter's gun.

Bloodhounds have been used by West Virginia Game Protectors to track down game law violators.—*Virginia Wildlife*.

The muskrat is one of the few North American mammals which has been successfully introduced into Europe . . . in some places in Europe muskrats have multiplied so rapidly that certain districts have been quarantined against them . . . because the long hairs on the outside of their coats contain oils which are wet-resistant, muskrats are provided by nature with water-proof garments which any manufacturer would be proud to imitate.

More than 1,000 game management areas have been established in Missouri.

The musk deer, source of musk in perfume, has no antlers but is armed with a pair of sharp tusks.

Sense of taste in pigeons, ducks and chickens is essentially the same as taste in human beings, declares Dr. C. Engelmann, writing in *Die Umschau*.

These three domestic bird species perceive the four fundamental taste classes: sweet, sour, salty, bitter. In numerous tests with variously flavored water solutions, Dr. Englemann found that pigeons have the most acute sense of taste, chickens the least.

California deer hunters bagged 35,039 deer during the 1938 season, one out of every four hunters being successful. Final tabulations for the season were compiled from deer tag returns. Game officials estimate that at a minimum weight of 20,000 lbs. per car it would require 175 freight cars to transport the total kill.

According to the Biological Survey, there are only 148 trumpeter swans remaining in the United States. The birds live in a special refuge set aside for them in the Red Rock Lakes, in Montana. The swan has perished over most of its range and dwindled to a remnant chiefly because of the demand for swansdown for ladies' wear in the period before 1890.

The annual turnover of Canadian business based on wildlife resources is valued at \$50,000,000 while their contribution to the health and recreation of Canadians is immeasurable. Resources Minister Crerar declared in the opening of a three-day conference of Dominion and provincial game conservation officials recently.

Federal dove-law violators who pleaded guilty in a recent session of Federal court at Lexington, Ky., included a policeman, a city attorney, a county attorney, a circuit court judge, a banker, an insurance agent, a hotel operator, a beer dealer, a funeral director, and a florist.

A large flock of ducks recently swooped down on the farm of J. F. Miller, North Beaver Township, Lawrence County, and gobbled up 60 bushels of husked corn.

Harry S. Lutz, prominent sportsman and pigeon fancier of Harrisburg, has been having his troubles lately. The other day a large female red-tailed hawk got into his coops and killed a very valuable bird. A week later an immature female Cooper's hawk captured and killed a pigeon which he valued at over \$100.

Otto A. Zuercher, of Ontario, Canada, well-known conservationist and game breeder, presented the Pennsylvania Game Commission two years ago with the world's champion egg laying pheasant, Lady Grimm. Now he is making an additional present of Lady Grimm's mate, Lord Grimm. Both birds will be placed on exhibition shortly at the Loyalsock Game Farm.

The average person believes only half he hears, and in so many cases it's the wrong half.

Refuges set up by Schuylkill County game clubs are turning out scores of rabbits for stocking on public hunting grounds.

Latest figures available from Game Protector Leo E. Bushman of Cressona, indicate that as of January 15 more than 500 rabbits trapped from refuges have been released where they may breed in the spring and thus replenish the supply.

Most amazing is the fact that these 500 rabbits have been trapped from only four refuges and there are 17 of these preserves in the county. If rabbits are trapped from all of them, several thousand will have been released before the breeding season begins. This clearly proves that Pennsylvania need not depend entirely upon rabbits from the Middle West.



SCATTER LOADS

MAN'S BEST FRIEND

SENATOR VEST had been retained as the attorney for a man whose dog had been wantonly shot. The plaintiff demanded \$200. When Vest finished speaking the jury awarded \$500 without leaving their seats. The following is Senator Vest's address:

EULOGY ON THE DOG

"Gentlemen of the jury: The best friend a man has in this world may turn against him and become his enemy. His son or daughter that he has reared with loving care may prove ungrateful. Those who are nearest and dearest to us, those whom we trust with our happiness and our good name, may become traitors to their faith. The money that a man has he may lose. It flies away from him, perhaps when he needs it most. A man's reputation may be sacrificed in a moment of ill considered action. The people who are prone to fall on their knees to do us honor when success is with us may be the first to throw the stone of malice when failure settles its cloud upon our heads. The one absolutely unselfish friend that man can have in this selfish world, the one that never deserts him, the one that never proves ungrateful and treacherous, is the dog.

"Gentlemen of the jury: A man's dog stands by him in prosperity and in poverty, in health and in sickness. He will sleep on the cold ground, where the wintry winds blow and the snow drives fiercely, if only he may be near his master's side. He will kiss the hand that has no food to offer, he will lick the wounds and sores that come in encounter with the roughness of the world. He guards the sleep of his pauper master as if he were a prince.

"When all other friends desert he remains. When riches take wings and reputation falls to pieces he is as constant in his love as the sun in its journey through the heavens. If fortune drives the master forth an outcast, friendless and homeless, the faithful dog asks no higher privilege than that of accompanying him to guard him against danger, to fight his enemies, and when the last scene of all comes, and death takes the master in its embrace and his body is laid away in the cold ground, no matter if all other friends pursue their way, there by his grave side will the noble dog be found, his head between his paws, his eyes sad but open in alert watchfulness, faithful and true even to death."

More than 800 ear-tagged deer have been released at various points throughout Michigan during the last seven years, according to the records of the department of conservation. Return of the tags by hunters who shoot tagged deer aids game workers in determining how far deer range from their winter yards.

The Commission is interested in securing photographs and measurements of record heads taken by deer hunters in Pennsylvania during the past ten years; also the size and weight of unusually large black bears.

Trap and skeet shooting with a .22-caliber shotgun, at a target that is slightly larger than a silver dollar and with a machine that can be conveniently operated in the basement of one's home . . . just about brings realization of the rabid gunner's fondest dream!

For two years, Fred Routledge, a mechanic and marksman, of Monroe, Mich., has been laboring to perfect this unique outfit. The bore of the .22-caliber shotgun fires a shell which is loaded with 105 to 120 No. 12 pellets, and on a six-inch square at 35 feet, places 80 per cent of the pattern on the target.

The birds are of a chemical composition balanced to meet all requirements of the small charge of shot. They are sufficiently substantial to withstand the shock of the trap firing spring, yet brittle enough to shatter when properly hit.—Pittsburgh Sun Telegraph.

Deer hunters in California this year legally bagged 35,039 deer, where according to J. S. Hunter, Chief of the Bureau of Game Conservation, Division of Fish and Game, only one out of every four hunters was successful.

The muscular power of birds, ounce for ounce of weight, has been determined to be several times that of any other living creature.

The California Condor, which is found almost exclusively in that State, is the largest bird in North America . . . it varies in length from 44 to 55 inches . . . and has a wing spread of from eight and one-half to eleven feet . . . the familiar humming bird, of course, is the smallest North American bird.

A committee of school teachers in West Virginia working with officials of the State Department of Education and the Conservation Commission recently completed the revision of a manual for conservation teaching in the public schools of that state. The material is now being put into shape for the printer.

Enroute to Williamsport on January 28 along the road near West Milton, William Drake and I saw twelve pheasants feeding in a cornfield. On the return trip, about two miles north of Muncy, we saw twelve more. They, too, were feeding in a cornfield.—Leo A. Luttringer, Jr., Editor, PENNSYLVANIA GAME NEWS.

Flash: This year the ducks were far more numerous than they have been for the past several years.



Oh! I'm saving that one for my mother-in-law.

SCATTER LOADS



Doe killed by E. J. Nevin, Erie, near fire tower at Owl's Nest, Elk county. Mr. Nevin, an archer of no mean ability, expects to bring down his buck during the next buck season.

Eighteen-year old Woodrow M. Conner, of Florence, Oregon, shot two wild ducks out of season and in so doing paved the way to becoming a high school lecturer on game conservation, reports the United States Biological Survey.

The defendant's age and financial circumstances led Justice of the Peace C. M. Severy to sentence Conner to study game birds in the local library, report to the Justice at intervals, and then give the local high-school students a lecture on game birds.

Nearly \$2,000,000 worth of furs was reported as the annual take of trappers in Ohio. This represented over 1,630,000 skins including fox, mink, muskrat, opossum, raccoon and skunk.

A total of 1,749 birds representing 57 species were banded during 1938 at the eight bird banding stations maintained in areas of 26 southwestern monuments of the National Park Service.

The American Bison Society, founded in 1905, is considering a memorial to the bison in the heart of the old buffalo country in Nebraska.



Frank C. Irvine, Tarentum, with his first bear. He killed the animal in Parker Hollow, Potter county.

The eyes of eagles are especially designed to look downward and the bird can see upward only with great difficulty. This is nature's way of making it easier for the bird to see its prey below as it soars high in the air in search of food. Then, too, the eagle's overhanging brow provides shade from the overhead sun.—From *The American Wildlife Institute*.

Many of the bears in Yellowstone National Park are spending their winters in steam heated hibernating dens. Superintendent Edmund B. Rogers and Park Photographer J. Haynes have discovered a new hot spring area on the side of Paint Pot Hill. Here they found a number of bear dens located. It seems entirely plausible that escaping steam and the natural warmth of the grounds attracts bears to this location for their long winter sleep.



Receiving a report that two bucks had their antlers locked at the head of Elk Run, Laporte Twp., Sullivan county, Robert Latimer, Game Protector, shown above, along with several local sportsmen found the deer, one of them dead and one very much alive. The living animal had dragged the dead one over 200 yards in a frantic attempt to free itself. He was angry and even tried to attack those who sought to free him, lunging at them so hard he would raise the dead buck almost off the ground in the attempt. Finally after every effort at rescue failed Protector Latimer was forced to shoot the buck.

If somebody should ask you the question, "Just What is a Tree?" it is altogether possible that you would be able to make some sort of an answer. However, for your information we print here a contribution by Dr. Daniel T. MacDougal of the Carnegie Institute of Washington, D. C.:

"Trees are perennial plants in which the rigidity of the erect shoots is secured by the formation of woody material; the tapering column of woody material terminates in a cone of embryonic cells, or a primary meristem. Dependent from this terminal cone of cells is a cylindrical sheet of elongated, fragile, needle-shaped elements of secondary generative cells, or cambium. Instead of a terminal cone of the shoot, numerous branches are present, each with its vegetative or growing point, or primary meristem."—*West Virginia Conservation*.

Michigan, which is so overstocked with deer that thousands die each winter, has offered hundreds of these animals to Virginia which has an abundant food supply for deer.—*Virginia Wildlife*.

Little Betty had been asking questions. Finally her mother, losing patience, said, "Now, sugar, remember curiosity killed a cat." The child thought a moment then asked, "Mother, what did the cat want to know?"

FOX HUNTING—By W. Newbold Ely, Jr., M.F.H.

MINNESOTA'S FIGURES. To the mounting mass of evidence showing that foxes actually help bird-life we have the report of Donald Hatfield of the University of Minnesota's Farm Entomology staff. "Because sportsmen and game wardens of the state felt that foxes were responsible for a decline in pheasant population, University farm, co-operating with the state conservation department, made a study of the winter food habits of foxes from November, 1937, through April, 1938. The contents of ninety-two foxes' stomachs were examined. Of the fifty-eight gray foxes taken in nine counties of Southern Minnesota and thirty-four red foxes taken from thirteen scattered counties, only four to six per cent of the bulk found in the stomachs were made up of pheasant material. From fifty-six to sixty-nine per cent was injurious rodents." In conclusion the report reads, "We feel that with pheasants making up a relatively small percentage of foxes' food, and rodents, such as mice and rats, such a large portion, foxes are much more beneficial than harmful in their food habits."

Another Western state which has been making an intelligent study is Michigan where they report that "in several cases in which a fox was blamed for killing some animal, investigation revealed that the charge was based on rather dubious circumstantial evidence and that the animal might have been dead before the fox reached it. Game investigators point out that many chickens which die, especially during the winter, are tossed out on the dump pile, and that when lambs die they frequently are left in the field. A fox in the vicinity could easily appropriate the carrion, which in that instance at least would account for the feathers and bones that could be found around his den later. Game investigators also believe that some of the raids blamed on foxes are actually committed by dogs on the loose. Field and laboratory studies have demonstrated that the chief diet of the fox is mice and that it also eats such things as insects and berries."

The above mentioned remark about "dogs on the loose" brings up the point which I have heard so much lately, and that is that steps should be taken in each state to eradicate the dogs which run wild and kill so much game. I recall so vividly a winter's walk with a game warden on which in the telltale snow we followed the tracks of a lot of these dogs hunting as a pack as they so often do. Bones, feathers, and the blood on the snow showed where the various rabbits and pheasants had been polished off, and before my falling arches completely collapsed, the tracks of this dog pack led to many poultry remains.

CONVERT. One of the writers of a shooting and fishing column who cares not a whit about fox hunting writes as follows: "Last winter

we had the privilege of examining the stomachs of half a dozen foxes. The only bird evidence was the wing of a snow bunting. In fact we were convinced that these foxes were disciples of Bernard Shaw so full of grapes, nuts, corn and fruits were their tummies. The skimpy evidence of so few specimens is by no means conclusive and yet we feel that this is six more foxes than many sportsmen have examined yet condemn the fox without reservation." This rod and gun man went on to say, "We have so much affection for foxes that we would probably put them on the game list. We have never found a sportsman who has found a sportsman who has hunted them who failed to agree with us. There is nothing like a crisp, cold day in winter with the music of good hounds hot on the trail ringing across the frosty air to quicken the pulse of the sportsman. It matches any thrill the rod and gun world has to offer." Words from an intelligent sportsman.

CATCHING RATS. A new method for rat catching comes from a New Hampshire correspondent who writes: "Every so often we have an epidemic of rats and this is one way that we get rid of a lot of them. I have a big horned owl in one pen and a female fox in another. I place a small dish of corn in the center of the pens and when the rats come in to feed, the owl and the fox have a good feed. I tried this in the racoon pen, but I found the racoons like corn as well as the rats."

And this brings up the interesting bit of information which my old friend, Gabriel Junks, unearthed viz. the origin of the term "rat catcher." Gabriel writes that "Sir John Astley appeared in the Royal Enclosure on one of the days of the meeting wearing a short black coat, while his head was covered by a hard felt hat. The Prince of Wales, afterwards King Edward VII, said to him, 'Good morning, Astley. Are you going ratting?'"

LIFE SAVERS. Last month Bugs, a foxhound, was the guest of honor at the Beaver Run Hunting and Fishing Club's banquet. Bugs saved their caretaker's life by pulling him out when he fell through the ice in Pike County, Pennsylvania. In fact, several of the papers this winter have reported the loss of hounds by the foxes taking them on thin ice which is a favorite trick. We lost seven couples that way several years ago, and recall reading of how the Pytchley pack way back were drowned crossing a partly frozen lake. Hounds can swim but the ice keeps breaking away where they try to climb out, and gradually the severe cold of the water paralyzes them and they sink from sight.

CERTAIN MECHANICS OF WINTER QUAIL LOSSES REVEALED BY LABORATORY EXPERIMENTATION

(Continued from Page 5)

peared "loath to leave the huddle." Also, it was observed that, as hunters have occasionally reported, the larger coveys at times huddled in two layers, one above the other. In such instances seven or eight birds huddled on the floor in the usual manner, while three or four individuals formed a small ring resting upon the backs of the larger lower ring. Furthermore, the data obtained would seem to indicate that until a few hours before death, the heat loss (as represented by the temperature in the center of the huddle) is greater in small than in large coveys.

Conclusions

As already stated, this paper represents merely a progress report on a series of experiments which probably will not be entirely completed for a period of months. In view of this fact, it is possible at the present time to draw only a few generalized conclusions which may tentatively be listed as follows:

(1) That the characteristic huddling habit of the bobwhite quail may at least in part represent an instinctive reaction which tends to reduce the heat loss from the bodies of the various individuals which make up any given covey.

(2) That, at least within certain limits, the ability of a covey of quail to withstand low environmental temperatures is directly proportional to the size of that covey.

(3) That the body temperature of individual quail may drop more than twenty-five degrees (Fahrenheit) below normal without the bird's suffering a breakdown of its thermal regulatory system which would result in death.

In closing, it seems fitting to call to the game manager's and sportsmen's attention the practical importance of the results obtained even from the few experiments so far completed. This lies in the indication that *throughout the northern portion of the quail range, the bobwhite coveys should not be shot down to a point where their chances of winter survival are seriously endangered simply by too great a reduction in the average size of the bevvies.*

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THE ODDEST ANIMAL OF ALL - - - THE SPORTSMAN!

By CARL D. SHOEMAKER

Executive Secretary of the National Wildlife Federation

Scientists are studying animals in a way they have never been studied before. Measuring skulls and counting ribs, feathers, teeth, and toe-nails aren't enough any more. Behavior is being carefully checked under methods that justify accurate conclusions as to why a bird or beast or fish acts in certain ways under certain circumstances.

It would be interesting to get some real bed-rock studies of the sportsman, the strangest animal of all. How many times has the remark been made in a duck-blind on a stormy day, or slogging through heavy going behind a dog, "If anybody tried to hire me to do this, I'd tell him to jump in the lake!"

The sportsman has the strongest affection for that which he pursues. He will go far out of his way to rescue a young bird in distress, and just as far out of his way to shoot that same bird when it is full grown.

We who have learned to love the out-doors as hunters and fishermen have the support of illustrious examples. John Burroughs first went afield in search of game with a muzzle-loading musket over his shoulder. Henry Thoreau, the gentle philosopher, confessed that hunting taught him to love nature. Theodore Roosevelt, America's first great sportsman for conservation, was a mighty hunter.

It is easily proved that the farmer, manufacturer, merchant, and banker have just as much at stake in our natural resources as has the sportsman, but the fact remains that conservation got its start in the various states through the demands of the sportsmen.

At first, these demands were simple and short sighted. Hatch fish in large quantities and pour them out of cans into streams. Later on, raise birds, buy rabbits and turn them loose; kill crows, hawks, owls, and stray cats.

We know, too, that a generation ago the average sportsman thought it was pretty smart to violate game laws. The enforcement officer was somebody to be outwitted.

The sportsman is changing in his ways of thinking. He realizes that increasing natural production comes first, artificial planting, second. Predator control is like spraying fruit trees. It is necessary, but is by no means the final answer. Twice as much spraying will not produce twice as much fruit.

The sportsman is at the forefront of the conservation movement, and as his vision widens, he is coming to see that his interests and those of the naturalist, the bird lover, the wild-flower enthusiast, the Boy Scout, 4-H Club Member—all who have a concern in the outdoors—are identical.

Each state has just the degree of wildlife restoration and conservation that its people, led by organized sportsmen, will demand and support.

For sportsmen to condemn "politics" and not unite to protect wildlife is childish. In politics, those who go after what they want, backed by the power of votes, get what they want. The Pittman-Robertson Act, and the special appropriation of \$1,000,000 for its functioning the first year, were put through Congress by united conservationists, brought together by the National Wildlife Federation. That means between three and four millions of dollars to be spent for wildlife restoration in the states, coming from the federal excise tax on arms and ammunition.

There is never a session of state legislature nor hardly a week that Congress is in session that the interests of wildlife are not in the balance, in some way or other.

Through state federations and through national unity, sportsmen can turn wishful thinking and indignant protests into effective action.

The sportsman who does not unite with other conservationists has no right whatsoever to complain, no matter what happens to wildlife through the workings of our political system.

CELEBRATED CONSERVATIONISTS AND NATURALISTS

Courtesy National Park Service

Andre Michaux

ANDRE MICHAUX, famous French botanist and one of the earliest scientists to explore the American wilderness, belongs in the series of Celebrated Conservationists not only as one of the earnest nature students and lovers of the present Great Smoky Mountains National Park, but because he himself first saw the light in one of the world's most historic parks, albeit one dedicated not to the people but to the royal family of France. Moreover, he was perhaps the first to appreciate the unique beauty of the vast prairies of the Middle West and to urge upon our national leaders a scientific appraisal of their resources.

Few biographies present such melodrama, such sharp contrasts as does that of Andre Michaux. Born in 1746 in the oldest section of Versailles—perhaps the most topiary, the most artificial garden in all the world—he was destined, before his life ended in 1802, to explore the greatest natural garden left virgin in the temperate zone, the green-crested summits of the Southern Appalachians. His botanical journeys took him into the most ancient, the longest studied lands of the Old World, and into the well-nigh inaccessible and least known wildernesses of the New. By nature so sensitive, his whole life's destiny was diverted into channels alien and incomprehensible to his family because of the untimely death of his wife.

Andre was inconsolable. His despondency threatened to unseat his reason. For distraction he began to study seriously the plants he had tended all his life.

Botany soon intrigued him to such an extent that he resolved to make it his lifework. Selling his considerable holdings, Michaux entered upon a period as bizarre as a tale from the Arabian Nights, including many narrow escapes from disaster and death. For a time he botanized in England and the Pyrenees; then, for the sake of his plant research, importuned the Government to assign him a post as secretary to one of the French consuls in Persia. There many hairbreadth adventures fell to his lot. Among them it is recorded that he was robbed and left naked and half dead on the deserts of Arabia. Once he was shipwrecked and almost died with the tropical fever. But he found his way back to safety and with undiminished zest continued his hobby. Eventually his collecting trips took him to that age-old valley between the Tigris and Euphrates reputed to be the cradle of the human race—perhaps, according to some chronicles, the site of the Garden of Eden.

And then, in 1785, Andre Michaux came to the New World, landing in the port of New York. His country had commissioned him to study the forest trees of North America and to send to France species that promised possibilities for European cultivation, particularly for shipbuilding.

It was Michaux who interested the mountain people in the cultivation of Ginseng. He introduced to America the Lombardy poplar, and the graceful Alzizia of the Orient, now common throughout the South, and called the

mimosa tree.

Beyond the Appalachians lay other types of wilderness beauty—Kentucky and Tennessee—declared by Daniel Boone to be a "second Paradise". Michaux explored 1,200 miles of this untamed land. Pushing on, he was the first naturalist to look upon the billowing prairies where bison still herded by thousands.

Eventually Andre Michaux reached Canada, his only companions the Indians, employed as guides, for he had sent back Francois to France to complete his education and to report upon the condition of those 60,000 precious trees and shrubs he had shipped to the Gardens of Rambouillet with such persevering and meticulous care. Like most Frenchmen, Michaux possessed the gift of winning the friendship of the Indians, and found their services as guides invaluable until he reached the bleak tundras of the Hudson Bay country. At that point their confidence in his leadership was outweighed by superstitious fear of the sinister wastes, and they refused to accompany him farther. So Michaux was compelled to retrace his steps.

What he had seen of the boundless prairies of the Great Plains had so impressed him, however, that he determined to seek from the American Philosophical Society at their Philadelphia headquarters assistance in their further exploration. He was one of the first to interest scientific bodies of this country in the "Far West". *Excerpted.*

FARMER - SPORTSMAN RELATIONSHIPS

By J. PAUL MILLER

ONE of the most comprehensive addresses on farmer-sportsman relationships was presented last November before the Fifth Annual New York State Wildlife Conference at Kingston, New York, by J. Paul Miller, Biologist of the United States Biological Survey, and, were it not for the fact that so much has been devoted to this subject in the pages of the *GAME NEWS* during the past few months, we should certainly take the liberty of publishing it in full.

It was Mr. Miller's good fortune early in 1936 to be assigned to an economic study of wildlife on a supplementary farm enterprise. This study was conducted throughout the United States and one of its major features was the careful analysis of the various types of farmer-sportsmen programs that had been attempted in the past, or were operating at that time.

The most important finding according to Mr. Miller was that "No one program, either specialized or generalized, can possibly serve in all parts of the country under the multiplicity of conditions which exist. These vary widely within the borders of a state and differ to an even greater extent in the various regions of the Union. It is the small details which go to make up the whole of any program that determine whether or not it succeeds, and the necessity of having a thorough understanding of these details makes it impossible for outsiders, such as myself, to come into your region, or any other region, and outline a program which has reasonable assurance of success. From my experience to date I am satisfied that the most important single element in any farmer-sportsman program is the human factor—the relationships between human beings and their attitudes, their aims, and objectives. I hope, therefore, that you will bear with me when, in this discussion, I place particular emphasis upon this phase of farmer-sportsman cooperatives.

"The importance of farmer-sportsman relationships becomes apparent when we realize that more than 60 percent of the potentially huntable area in this state is devoted primarily to agricultural uses. We can readily appreciate how important farming is to the game of the State of New York when we consider that several of our important game species, such as the quail, pheasant, and Hungarian partridge, are entirely dependent upon farm lands for their very existence and that other species, as the cottontail rabbit and ruffed grouse, profit materially by habitat conditions created and maintained by certain agricultural practices. More than 80 percent of the game reported taken in the state is produced on farm lands and probably killed there."

In summing up his studies, Mr. Miller says: "One of our greatest opportunities lies in finding a friendly and satisfactory solution to our

farm game problems. Toward this end I make the following suggestions.

"In setting up a farmer-sportsman cooperative we must recognize:

"That game and the pursuit thereof no longer are necessities but luxuries and as such we must expect to pay for them.

"That the farmer is the sportsman's most important ally. He produces most of the game and provides most of the places to hunt it.

"That access to the farmer's land is a privilege to be jealously guarded by always obtaining permission from the resident on the land and by always conducting ourselves as guests of our farmer host.

"That the State Game Department cannot possibly do the job for us and that we must assist by influencing public opinion and by insisting on observance of a higher code of hunting ethics than has been practiced.

"That we must accept the limitations nature places on wildlife production and be satisfied with a smaller bag regardless of what the law permits.

"That we must provide adequate refuges and seed-stock areas if we expect to produce game by the most economical and practical means, and

"That we cannot expect to accomplish our aims without cooperating with the farmer.

"As a demonstration of our good faith, I suggest that we make a serious effort to provide protection for the farmers' property. If additional legislation is necessary, I suggest we join forces with the farm bureau, the grange, or other farm organizations and get that legislation. Then, since we have no right to expect our game department to accept the entire responsibility of enforcing the code or the legislation, we should cooperate in every way we are asked, even if we have to furnish our own vigilantes.

"Because I am inclined to lay the shortcomings of previous farmer-sportsman programs squarely in the laps of hunters, some of you may think that I am pessimistic about the possibilities of cooperatives. Far from it; if I were I would be pessimistic about the entire hunting future of America, because on the farmer-sportsman relationship that future rests. But let's face the facts squarely and build that future on a bedrock foundation.

"If we, the sportsmen, will assume our proper responsibilities, forget the past, and look toward the future; if we will forget petty differences and selfish motives, and look upon the present opportunity as a threshold to a new era in conservation; if in other words we will truly cooperate, the farmer-sportsman movement will go forward and nothing can stop it."

A WORTHY OBJECTIVE

The fame of Jack Miner's bird sanctuary has extended far beyond the boundaries of Canada, even beyond the confines of this continent. His conservation plans for the benefit of future generations are almost as well known in Europe as in Canada and the United States, and only two years ago he was approached by officials of the Government of Czechoslovakia for information and advice, as a result of which that country today has a chain of sanctuaries for bird-life patterned after the Jack Miner sanctuary at Kingsville, Ontario. Indeed, his influence may be said to have spread around the world and his example is probably doing more to inspire conservation of bird-life than that of any other man living.

What Jack Miner has done in the past quarter of the century to preserve many species of game birds for the benefit of sportsmen of this and future generations, for the enjoyment of the lover of all that is beautiful in Nature and for the benefit of the tourist, and industry dependent upon the tourist, cannot be calculated in dollars and cents. His work is a memorial which will endure throughout the ages and will be recorded in the pages of history, and the sanctuary itself is a memorial which should be preserved for the nation, for future generations, and as an attraction for visitors from other countries of the world.

Aid Is Required

Although some assistance has been rendered by governments to Jack Miner's enterprise, unfortunately the work has been carried on at a pecuniary loss and the operation of the sanctuary is encumbered

by a deficit of \$10,000. He, himself, has passed the allotted three score years and ten and there is no guarantee that the enterprise at Kingsville will or can be carried on after his demise unless some public-spirited individual or organization makes its perpetuation a financial possibility.

It is reported that an endowment of approximately a million dollars is required to ensure this happy consummation, with an additional \$250,000 to provide for an extension of the present crowded facilities.

Would Ensure Perpetuity

An endowment to ensure the continuance of this work and the preservation of what amounts to an international monument would be more than a happy gesture for some such institution as the Rockefeller Foundation which, according to a compilation in an article in a recent issue of *Fortune* magazine, has already expended some twenty-seven millions of dollars creating national parks on the other side of the Canada-U. S. boundary.

In the expenditures he has already made for similar objectives, Mr. John D. Rockefeller, Jr., has given evidence of his realization of the value of outdoor recreation for humanity and the endowment of such an institution as the Jack Miner bird sanctuary would not only constitute a fine gesture of international goodwill on his part or on the part of some other wealthy citizen of the United States, but would emphasize the international value of Mr. Miner's efforts for the whole of mankind.

THE PLACE OF FOODS IN WILDLIFE MANAGEMENT

(Continued from Page 7)

during years of heavy seed crops, the fruits of the northern pines are taken. The insect food of the quail includes a wide variety of species many of which, like the Colorado potato beetle, are very harmful to domestic crops.

The woodcock is, of course, dependent for practically all of its food on the earthworm and similar forms. The species is, however, quite dependent on certain types of cover for this food supply. Very few if any earthworms are available in pure pine woods, while the hardwoods, especially of such species as white ash and the birches, have large populations of earthworms and this is reflected in the use made of these latter types by the woodcock. The combination of moist pasture and birch clumps seems to supply ideal feeding conditions for this bird.

It is much simpler to name the plants rejected as food by the white-tailed deer in a given region and under a given density of deer population than it is to give the remainder of the woody flora. Grass doesn't seem to be taken in any quantity although it appears in almost every stomach in small quantities. Weeds of all sorts seem to be relished and clover is an especial favorite. Most garden crops are relished. The deer feeds by travelling and nipping at all sorts of plants along the way and so a collection is made of practically everything available. The winter food is, of course, largely made up of the browse of most woody plants. With anything except very heavy deer populations, the conifers are not often taken, the exception being the northern white cedar, which is the main food in the deer-yards of many of the northern states. Balsam is also taken but is a much poorer food so far as its nutritive value is concerned. In central and southern New England, apples are a very important source of food and the deer will dig them out from under a deep snow blanket whenever they are available. Other species which are especially important are red maple, yellow and black birch, chestnut, the hazels, ash, checkerberry, cherries, oaks, the sumachs, the raspberries and blackberries and the ground hemlock. The checkerberry and ground hemlock are very eagerly sought and used throughout the winter wherever available. The only species which were found to be commonly ignored in Massachusetts were the hawthorn, spreckled alder, spiraea, and *Lyonia*. In regions where over-browsing has resulted from an extremely high deer population, the least palatable foods such as the pines, mountain laurel, etc., are eaten.

Seton (1929) said "to make a complete list of the plants that serve the cottontails as food would make a catalogue of 99% of the flora of the United States. Nearly every kind of green grass, succulent herb or flowering plant native or foreign is acceptable food to the cottontail". How literally this is true of the woody plants is shown by the fact that more than 100 kinds are known to be taken. While they are available, the cottontail feeds largely on the grasses and such other herbs as the clovers, dandelions and many other weed species. During winter, he is, of course, largely confined to woody plants, some of the favorite species being apple, sumach, black and yellow birch, the various species of blackberries and raspberries, and the willows. The apple fruit is sought whenever available and other fruits are taken in smaller quantities.

While the snowshoe hare is generally thought to feed on woody

plants throughout the year and almost exclusively during winter, it undoubtedly eats many species on which we have no information at present. The consensus of opinion seems to be that aspen is one of the most favored foods and that hardwood species are generally eaten in preference to conifers. An interesting fact was brought out in a study of the snowshoe at the Harvard Forest in Petersham, Massachusetts. During winter, the hares in this area did no bark peeling, existing entirely on the browse from small branches which were eaten entire. Undoubtedly where heavier populations are present, it becomes necessary for the animals to peel bark from the main stems. One of the favored foods of the snowshoe in Massachusetts is the checkerberry or wintergreen. This is taken even through a fairly heavy snow layer. Norway Spruce was one of the most favored species in Massachusetts, followed in order by red maple, the bush honeysuckle, red oak, hemlock, checkerberry, white pine, blueberry, chestnut, alder, and red spruce. Like the cottontail, the snowshoe is fond of apples and other fruits but its usual habitat does not supply these in any quantity.

The gray squirrel is of course, mainly limited to a diet of nuts during the fall and winter months but fruits such as those from the apple, hawthorn and many other woody species are readily accepted. Unlike the red squirrel, the gray is unable to eat the seeds of the conifers and so is limited almost entirely to the older stands of hardwoods and thrives best in the oak-hickory type of central and southern New England. The seeds of the hard maple, hazel, witch hazel and hop hornbeam are also taken.

The raccoon is omnivorous, feeding on crayfish, grains such as corn and buckwheat, fruits of many kinds, including apples, cherries, and grapes, mast of beech and oak, insects, earthworms and small quantities of snails, fish, frogs, reptiles, small mammals and birds.

The red fox is usually thought of as feeding almost entirely on small mammals and birds, but actual food studies show quite a different picture. During late summer and early fall, the fruits of the blueberries, cherries, grapes, sarsaparilla and the raspberries form the major part of the food of Massachusetts foxes. When they are available, apples form a large proportion of the late fall and winter diet. During periods of deep, loose snow the fox often wallows to a nearby apple tree to get the only food it is possible for him to obtain until the travelling conditions are better. The meat portion of the fall and winter diet is mainly made up of cottontail rabbits, mice, woodchucks and occasional birds. One of the most surprising things the writer has ever seen in a fox stomach was nearly a double handful of grasshoppers taken in early November.

In conclusion we can say that a very good start has been made on the problem of what our more important wildlife species eat. Local information both as to use and amounts of food available is, of course, necessary to really understand and manage a given animal in a particular region. The food production is directly correlated with soil types and agricultural use. The agricultural research men have mapped the soils and the types of use. It remains for wildlife research to evaluate these in terms of food production and usability for our game species.



Old worm fence is being revived on many state game lands, and planted to food bearing trees, vines and shrubs.



This row of evergreens provides excellent cover for wildlife and at the same time serves as a "snow fence" and windbreak.

THE MAIL BAG

"My wife and I made the trip to Pennsylvania for hunting and also to learn how you handled the conservation of your game.

"I wish to openly express my opinion, which is, that I think that the Pennsylvania Conservation Department in regards to the way they handle the situation concerning the destruction of crops of the farmer, and the fine way they treat the poor people of their community is a credit to their organization which no man can overlook.

"I came to Pennsylvania and hunted near Ridgway. I got my doe, of course, after traveling from near Traverse City, Michigan, 640 miles. It wasn't the deer, but the kindness and the fine treatment that I received from the people of Pennsylvania and the Conservation Department which makes me more than pleased with my trip.

"The only time that I ever traveled in your fine state was when I passed along the east coast on my way to Norfolk, Virginia, where I embarked for three years service in foreign countries in U. S. Marine Corps.

"I, as well as many of my friends, who are fine clean sportsmen, will be back next year, if things go right, to see you.

"Please keep this letter posted and send me such information as I will need to require a license in your state next year.

"This letter may be used for open publication, and I thank your department for its fine cooperation."—Ward L. Cook, Honor, Michigan.

"I am sending my game kill report in with a few protests. I may be out of order in so doing but after reading my game kill report I notice stray house cats. What is a stray house cat? A farm may be 200 acres more or less. What right would I have or any other city would-be sportsman to shoot some farmer's cat which may have wandered a few blocks away from home to catch moles and mice. I have made careful observation of many cats sitting out in the fields watching for moles and mice. My own cat brings home two or three most every day. Through newspapers and your game kill report you encourage hunters to kill the farmer's cat. No wonder he has posted his land. They shoot his cows and chickens and now you tell them to shoot his cat. I expect next year it will be his dog that he must tie up 9 months of the year for no good reason. Anyone who knows anything about dogs or cats knows they catch very few rabbits compared to the kind of a sport who goes out in the morning and kills the limit and does the same in the P.M. The woods are full of this kind of varmint. Nothing is ever said or done about it. Playing pump guns—shooting cats and killing everything you can draw a bead on will not save the game. What you need is a closed season or two. Have a few game reserves. In York County we have no place where game is protected. In fact we have no place to hunt unless the farmer lets us do so. Every year more post their land. I believe I would do the same. After all it is his game while on his land. That \$2.00 tin plate on my back don't get him anything but trouble. "Live and Let Live."—A. M. Johnson, West York, Pa.

As I used to be a good marksman with the shot gun and revolver, I am going to give you three experiences:

When I was a boy of 18 years on Father's farm, he made me a present of an English Breechloader shotgun, made by E. Wood, London, England, together with 24 solid brass shells with screw end for cap. One Saturday I loaded these 24 shells with $3\frac{1}{4}$ drams black powder, $1\frac{1}{8}$ oz. No. 6 shot with home made wads. I killed 22 quail with 22 shells, taking every shot that was offered and brought down a grouse with the 23rd shell, which fluttered and then started to run and was killed with the 24th shell. That was at Poland, Mahoning County, Ohio in the year 1874. . . .

I once shot 6 grouse straight without a miss with a Colt No. 12 shotgun at Sabula, Clearfield County, Pa. At another time at Sabula, I shot 9 grouse with 13 shots and just at dusk shot the 10th grouse that was badly wounded and dropped in a thicket, but my pointer was so near fagged he refused to retrieve and it was too dark to find it. The next day I went back to get the grouse, but couldn't find it.

For years I have been shooting a single trigger, 20 gauge L. C. Smith, the most charming experience of a lifetime, and with that little gun it was almost invariably a clean miss or a clean kill. The first grouse that I killed with that gun was hit and killed at 51 yards, but fell at 66 yards. The longest clean kill that I ever made with that little gun was at 54 yards. In the many grouse that I killed with that gun, more than I would care to admit, I lost but one bird that was wounded, and that was two years ago on Clear Creek, near Reels Corners, Somerset, Pa. The bird fell in a bunch of dry leaves and my famous english setter, Ring and I hunted for nearly an hour, crisscrossing that whole section and were so disappointed in not finding that bird that we quit and went home.—E. K. Morse, Engineer, Pittsburgh.

"I believe I understand, in a reasonable measure, the conditions which apparently warranted the recent antlerless deer season. It does seem evident that the problem is much enhanced in the doe season over that of the buck season, and little would I undertake to offer you a solution, excepting that I have one proposition which, as a humanitarian and I believe as a conservationist, I would strongly hold forth with faith that it would go a long way toward getting desired results. My suggestion is that, just as a citizen is required to pass an examination to qualify as a hopefully safe and sane driver of an automobile, so there should be a practical examination before any individual should be permitted the use of so dangerous an implement as a high-powered rifle or shotgun in the fields and woodlands of our State. Possibly color blindness and poor eyes, as well as poor experience in handling firearms should be definitely determined. I understand that I would be opposed by sportsmen in general, and possibly by the Game Commission in particular, because it would necessarily reduce the amount of license fees the State would collect from year to year. At the same time, it would give a sense of security and satisfaction to those who can qualify, and possibly it would bring about a very widespread ambition including development of rifle ranges and a popular understanding of what it means to handle such weapons in the way they ought to be handled."—W. F. H. Wentzel, Secretary, Western Pennsylvania Humane Society.

BENEFITS TO WILDLIFE IN AGRICULTURE PROGRAM

(Continued from Page 11)

This resulted in a memorandum which was sent to all District Agents of the A.A.A. by James E. Walker, Chairman of the State Committee, Harrisburg, Pennsylvania, urging cooperation with field representatives of the Game Commission, and emphasizing the present practices which benefit wildlife.

In turn the Game Commission issued a memorandum to all field officers stressing the advantages to wildlife and soil conservation by cooperation with the A.A.A. Names and addresses of all Chairmen of County Committees of the A.A.A. were furnished to the Game Commission's field employees who were urged to contact and cooperate with them. The Agricultural Conservation Program was explained to them and they were asked to pass this information on to their friends and acquaintances. They were also urged to solicit the help of the sportsmen in this worthy enterprise.

The program, beyond all doubt, warrants the continued efforts of all who are interested in the building and conserving of soil and in

wildlife restoration. Participation in it will greatly further the understanding between farmer and sportsmen and will be a means of providing much needed natural food and cover for some game.

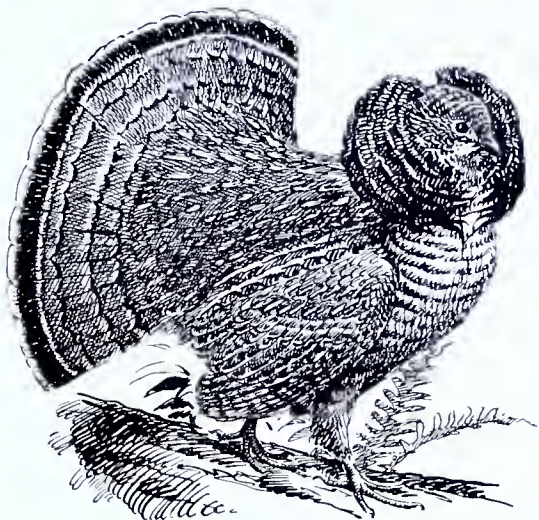
It must not be overlooked, by farmers who are anxious to have good looking as well as productive farms, that many of the shrubs, vines and trees beneficial to game from the food and cover standpoint also enhance the beauty of the farm by their attractive flowers, leaves and fruits.

Then too, when natural conditions are improved for game more and better nesting sites are created for song birds, the arch foe of insects which caused so much depredation for many farmers.

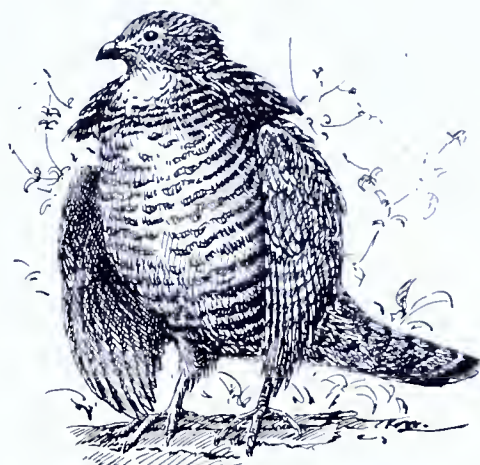
Here also the farmer is rewarded not only by the destruction of the insects but also by the beauty of the birds and their songs. And who can deny that the daily tasks of farming are considerably lightened by the beauty and cheerfulness these friends of mankind instill in the hearts of all who see and hear them.

OUR WILD NEIGHBORS

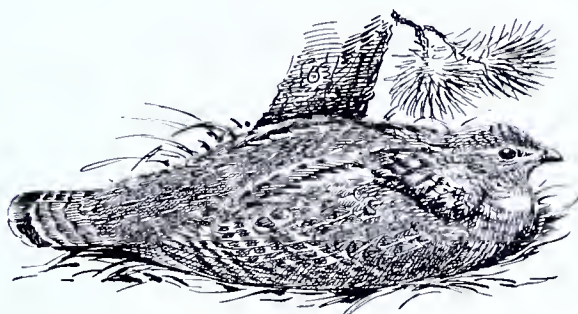
By EARL L. POOLE



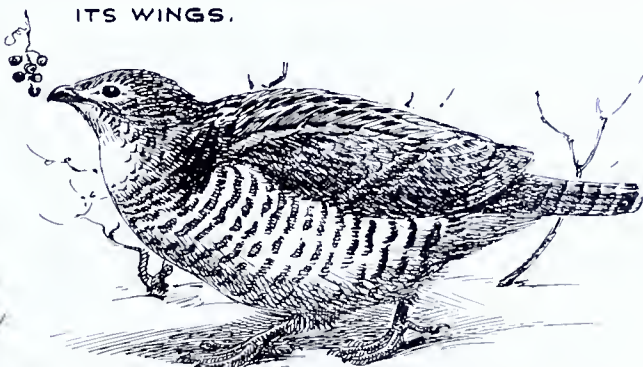
IT TAKES ITS NAME FROM THE FINE RUFF OF FEATHERS AROUND ITS NECK



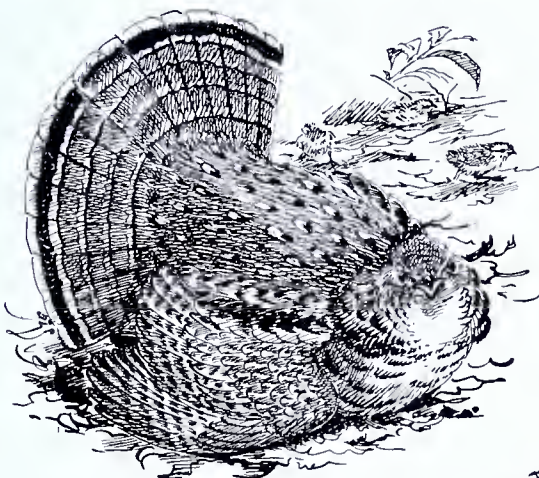
DURING THE MATING SEASON THE COCK MOUNTS A LOG AND DRUMS BY BEATING ITS WINGS.



THE HEN LAYS FROM 7 TO 15 EGGS IN HER NEST ON THE GROUND.



ITS FOOD CONSISTS OF SMALL NUTS, BUDS, SEEDS, AND WILD FRUITS IN GREAT VARIETY. IN WINTER EVEN LAUREL LEAVES ARE EATEN.



THE CHICKS ARE CAREFULLY GUARDED BY THE HEN WHO KNOWS MANY TRICKS TO FOIL THEIR ENEMIES.



IT IS A RAPID FLYER, RISING WITH A ROAR OF WINGS AND THREADING THROUGH THE TREES AND BRUSH WITH EASE.



FOOT IN SUMMER



THE WINTER "SNOWSHOES"

E.L. Poole

RUFFED GROUSE

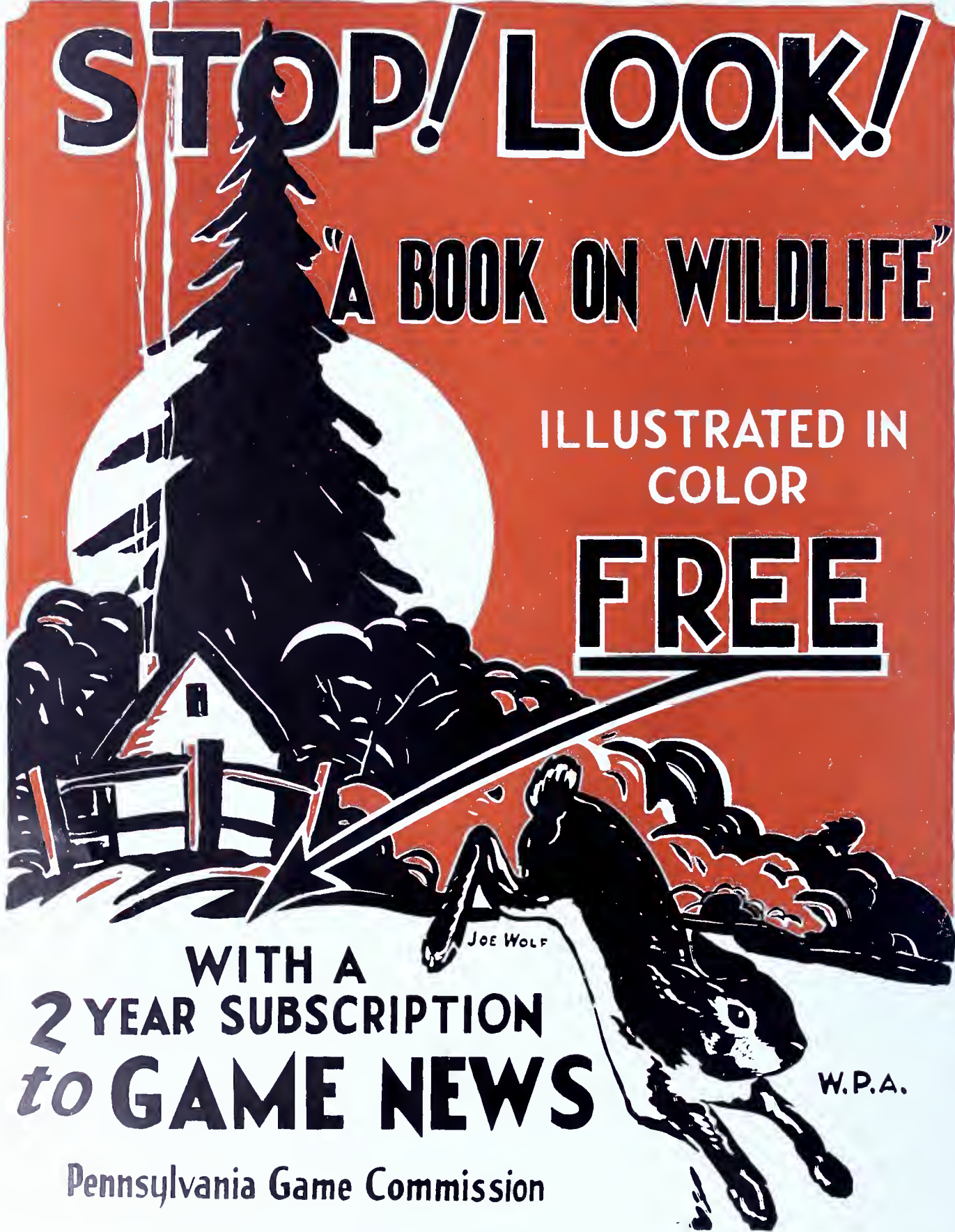
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PENNSYLVANIA GAME NEWS



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Cover photograph of Duck
Hawk courtesy of Dr.
Robert Stabler, Philadelphia

A SPRING CHECK-UP

THIS is the time of year when all well managed establishments begin taking their stock inventories. The Game Commission, which is managing a several million dollar business for the sportsmen has already started its material inventories. It has been making a State-wide spring check-up of the game birds, game animals, and fur-bearers left in our coverts. All this is highly essential, for upon such an inventory, and the breeding season success, is determined the seasons and bag limits for next fall.

The question is often raised why the Commission waits until the middle of the summer before declaring seasons and bag limits. The reason is obvious. The Commission must first determine how much seed stock came through the winter; then whether or not the breeding season has been successful. These primary factors, as well as a lot less important ones, all point the way to either a good bag or a poor one, and necessarily have a tremendous bearing on any seasons and bag limits the Commission may set.

Before any important or major problem is undertaken the Commission canvasses its entire field force, as well as numerous other sources, to ascertain all the facts. In the matter of a game inventory the same procedure is followed. Only recently all field officers were furnished with a form upon which to list their stock records of all species. Naturally all their computations are subject to variations as to accuracy. They have to be based primarily upon daily field observations, supported by comparative information from previous years, and sometimes they may vary. However, on the whole they constitute a fairly accurate cross-section of the game situation in each county and throughout the State generally; consequently the Commission can study the situation much more intelligently than had no inventory been taken.

Following such a field inventory the Division Supervisors are called in, and they in turn submit their findings of the situation in general. And so it is that ultimately decisions of the Commission on seasons and bag limits are based upon a pretty thorough inventory, and not just guess work. The present prospects for the coming fall are, in the main, very encouraging.

THE FLUSHING BAR

In game conservation it is the little things that count, and if the mere fastening of a bamboo pole, with a few chains dangling from it, from a mowing machine will mean the saving of so many nesting ringneck pheasants or quail during the harvest season, then it behooves every good sportsman and landowner to promote the widespread use of such a simple and inexpensive device.

When used properly the flushing bar *will* save nesting game birds. That fact has been proved time and time again on many a farm in the intensely cultivated sections of the State, particularly if the landowner takes the time and trouble to *mow around the nest*, or quickly jump the cutter bar over it, after the bird has flushed, leaving enough cover to protect it. Allowing a small bit of cover to stand around a nest does not waste any material quantity of hay,—not enough for any landowner to be concerned about it—therefore, the governing factor is his inclination or disinclination to take the trouble to do it.

The Game Commission, despite the efforts of its field officers, cannot hope to canvass all the farmers in the State in regard to the use of the flushing bar; therefore it is up to sportsmen's organizations through their members to assist in this worthwhile program. After all, it means more game in the bag for them next fall, and surely they cannot, in all fairness, sit back and regard this responsibility as one wholly of the Game Commission. The Commission is willing to do its part, but in the case of promoting so widespread and beneficial a program its success would be questionable without the wholehearted support of the sportsmen.

Use the flushing bar and prevent the useless slaughter of valuable game birds and animals! Write for the Commission's leaflet on "How to make a Flushing Bar."

LEGISLATION

In the last couple of years a number of states have seen fit, because of Pennsylvania's reputation as a great game State, to adopt legislation creating similar systems of game management so that their activities in behalf of the sportsmen can be carried on without fear or favor. Other states are even now seeking to do likewise.

The Commission greatly appreciates the friendly cooperative relations which have long prevailed between it and the sportsmen. Only the wisest laws sponsored and upheld by the sportsmen and the Commission have made possible this great system which so many other states now seek to emulate. It goes without saying that serious consideration must be given to all future legislation in behalf of the wildlife of our Commonwealth to the end that Pennsylvania may always maintain its present high standard in this great recreational field.

Always in the past there has been perfect coordination between the sportsmen, the Commission, and the men who make our laws. The result is obvious. Such a wholehearted alliance has meant more game in the coverts and more game in the bag. It has meant better administration, better law enforcement; it has meant a lot of *better* things as the years have gone by. And just so long as the same spirit of cooperation prevails, just so long will Pennsylvania be regarded and looked up to as the leader in wildlife conservation.



1939-40 DUCK STAMP

The new "duck stamp," by Lynn Bogue Hunt, famous artist, depicts a male and female Green-winged Teal standing at a marsh edge.

HILLBILLY DUCKS

By N. R. CASILLO

EVEN the most inexperienced duck hunter knows that ducks are not ordinarily shot on a hilltop in a hardwood forest where one is more likely to find grouse and other upland game. But, one such experience convinced me that almost anything can happen in this cock-eyed world.

I have often hunted ducks in flooded forest-land or while wading through the tangles of an alder swamp; pushing through the thickets with a minimum of noise, and flushing the fowl when nearly upon them. It's the height of sport to hold fast onto a speeding teal or wary black as they top the low swamp growths and then letting them have it.

The difficulties entailed in such hunting well merits the two or three fowl that one may bag in the course of a day. However, just imagine walking through an open woodland and knocking them off as they leave the ground in flocks containing as many as a score of individuals.

It all came about in this way. Some time ago I invited Forester Owen Fox to accompany me to a woodland that seasonably teems with migratory birds of all varieties. The extensive tract made up largely of mature but sound oaks, maples and gums with a considerable sprinkling of dogwoods and a variety of haws, is reminiscent of those friendly, clean and homely forests beloved of Burroughs and Thoreau. Moreover, it is only a few miles from town.

On a sunny afternoon, its location on a doomed hilltop overlooking the valley of the Shenango makes it a fairyland of dancing shadows and lights.

On all of my visits there, regardless of seasons, I have always encountered birds both in variety and numbers. And what birds would not be attracted to a place where suitable foods may be had for the taking?

One hazy October afternoon, when the maples and black gums were flaming pillars of scarlet and red, I visited this favored spot to spend a few hours with the birds. And what a variety was there to enliven the woods with their twitterings and flashes of color. With my back to the warm sun I spent a couple of hours that were as interesting and far more fascinating than those spent at many a movie or football game. And don't get me wrong, for I do enjoy a good game and even an indifferent movie.

Bluebirds garbed in their more somber fall colors were there in force, flitting from tree to tree or perching in studied poses on low limbs and stumps. Waxwings were in the dogwoods and gums feeding on the abundant berries. A couple of olive-sided flycatchers performed their aerial evolutions in pursuit of elusive insects. But hold—this started out as a duck hunt.

That same afternoon I called the Forester and told him about my find. "Can you go out there with me this evening?" I asked after I had waxed enthusiastically for some five minutes about the numbers of birds that I had seen.

"You bet," he assented, "just as soon as I can wolf some dinner."

It was after sunset when we entered the wood. Singularly, not a bird voice was to be heard, while the fairy pipings of a couple of squirrels

only accentuated the otherwise dead silence. Silently I took him from one section of the wood to another. Finally, breathless, we paused on the hilltop to load our pipes.

"I'm stumped," I admitted, nonplused at not having seen or heard a single bird.

"I'm not at all disappointed," he replied graciously. "The trees are magnificent."

Suddenly, the whistle of many wings caused us to look up into the sky. A flock of about twenty-five ducks, presumably mallards, passed swiftly overhead and disappeared in the gloom of the forest.

"Well, what do you know about that?" I gasped in surprise.

The Forester said nothing, but pointed at a smaller flock coming toward us, the birds clearly

had preceded them. We slowly sauntered in the direction that they had gone.

Scarcely more than a couple of score yards away a flock of a dozen went winging off, several of them quacking in alarm.

"What could they have been doing here?" I asked, more puzzled than ever.

"Feeding," observed the Forester, indicating the acorn-covered ground with a sweep of his arm.

A short distance farther on another flock took to the air. Dozens of birds hurtling off in all directions singularly reminded me of a covey of bobwhite and gave me an idea.

After flushing five flocks we descended the gentle slope to the car. On the way we encountered two rabbits, an over-curious skunk and two young but stubborn bulls. A very eventful evening.

A week later when the waterfowl season opened I hid myself to the spot for a little upland duck shooting. A duck hunt that I think was the shortest and most unusual ever recorded in these parts.

For a full hour after entering the wood I amused myself watching a flock of titmouse, several bands of chickadees and an old boar opossum going about the business of rustling his supper.

Just before sunset the ducks began coming in, circled about and then made for that area where the white oaks were most numerous.

After waiting a short time I carefully and quietly made my way toward the busily engaged fowl.

My sixteen gauge double was loaded with number sixes, heavy enough I thought if I singled out my birds. I was practically certain of bagging a brace (if I could hit them), and in all probability knock off any others that chanced to be in line. Then, the idea was to ignore the temptation of blazing away at the flock in general with the hope of bringing down several birds.

Not a sound could be heard and as I advanced I began wondering if after all the ducks were not there. It seemed to me that some sound should be forthcoming from such a concentration of ducks, particularly feeding ducks.

As I cogitated on the matter I topped a little knoll and—a literal explosion of feathered bodies, shrill quacks, sqawks and squeals filled the air. A patch of terrain before my very eyes quite magically sprouted wings and took to the air.

For a fraction of a second I was completely demoralized. But before all of them winged off slantingly over the treetops I shouldered my gun, followed a pair of young and apparently unsophisticated drakes and let them have it. They both dropped, a plump pair of mallards.

Before I had time to reload, another detachment jumped up from behind a screen of low bushes. You can appreciate my reactions if you have ever tried reloading under parallel conditions. By the time I was ready, the last duck in sight was hopelessly beyond the range of my marksmanship. Nevertheless I pulled

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LEGISLATION

We had hoped to run a full account of all proposed game legislation on this page, but when the time came to go to press the status of some bills was so uncertain that we felt a report at this time would confuse, rather than enlighten, our readers.

Under the circumstances we suggest that those interested keep in close touch with their local sportsmen's associations, the secretaries of which are furnished periodically with up-to-date legislative bulletins, or contact this office and we shall take care of your requests promptly. After the close of the Session a complete summarization of all bills will be made.

silhouetted against the brilliant evening afterglow.

For the ensuing ten minutes ducks came in from all directions, dodged through the trees and seemingly passed on through. We stood there spellbound by what was transpiring.

As the flight lessened I expressed my opinion that they were probably headed for a small pond a couple of miles from there.

"But why fly through the wood?" asked my companion.

Just then four birds wheeled in and alighted on the horizontal limb of a nearby white oak.

"That's a new one on me," observed he as the ducks carefully aligned themselves on their perch.

"Same here," I agreed, "I've seen wood ducks do it before but never any others."

In a few minutes the quartet took off, circled overhead and went on through like those that

A PROGRESS

By RICHARD GERSTELL

Food and Cover Development

During the past two years the Commission and the sportsmen have carried out the most extensive food and cover development program ever conducted in the Commonwealth. Various federal agencies, including the C.C.C., the N.Y.A., and the W.P.A., have aided in the work.

In 1937, on State Game Lands alone over 500 acres, comprising more than 500 separate plots, were sowed to various cereals in order to furnish food for small game, while 174 additional acres were planted by neighbors on a share basis for the same purpose.

In that year also, James N. Morton, Chief of the Commission's Division of Land Management, assisted by representatives of the Pennsylvania State College, developed a seed mixture for use in planting game food plots. More than four tons of the mixture were prepared by a commercial seed house for use in 1938. The demand, however, exceeded the supply as various groups of sportsmen purchased and planted the greater part of the total, while the Commission utilized a smaller portion.

Also during the 1937-38 biennium, there were planted on State Game Lands over 500,000 seedling evergreens and more than 220,000 game-food producing trees and shrubs grown in the State Forest Nursery at Mont Alto and the Commission's own nursery near Beavertown. This work also was supplemented by numerous planting programs carried out by numerous landowners and sportsmen.

Retreat Refuges

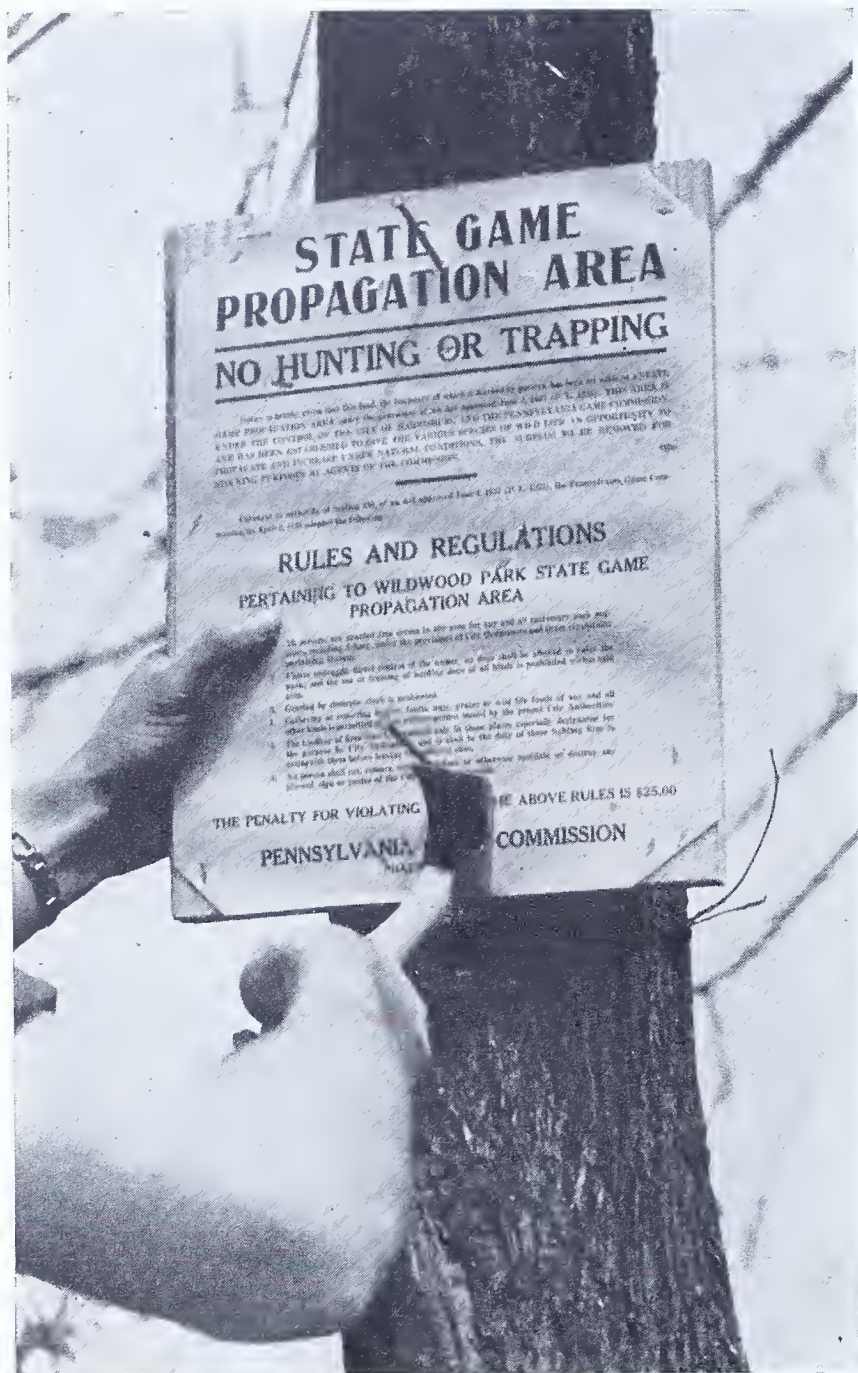
As a part of its cooperative farm-game program (Gordon, 1936) the Commission, assisted by landowners and sportsmen, is sponsoring a vast system of small retreat refuges located in the extensively-farmed and more heavily hunted sections of the State. These small refuges, from two to fifty acres in area, (average about eight acres), are designed not to furnish the breeding place for a large rabbit population which will spread out and fill the surrounding territory, but to provide small temporary havens wherein the various game birds and mammals may seek escape from the hunters during the open shooting season. To date more than 743 of these small refuges, totaling over 5,634 acres in area, have been established throughout the State.

State Game Propagation Areas

Under the provisions of the new 1937 Game Code the Commission, again acting in cooperation with the landowners and sportsmen, has established a system of state game propagation areas. These units represent publicly or privately-owned tracts of land, such as the grounds of state and county institutions, watersheds, etc., practically all of which previously had been closed to hunting. By joint agreement they have been set aside and developed as natural breeding areas from which the surplus game will annually be live-trapped and redistributed on lands open to public shooting. To date, 58 of these areas, comprising 21,309 acres of land in 28 counties, have been established and are now in operation.

Live-Trapping and Redistribution

A major portion of the new program has been concerned with the live-trapping and redistribution of native Pennsylvania cottontails. The animals are taken from areas closed to hunting, such as the edges of towns and cities, state and municipal parks, the game propagation areas mentioned above and similar places, and released on open hunting territory where the resident stock has been cut down by shooting or other means. It is felt that rabbits of this type can not only be obtained at a lower cost than those imported from the Middle West, but that they are also far superior to the western rabbits for restocking depleted areas.



Type of sign on State Propagating Areas.

Introduction

SEVERAL years ago the Game Commission, through its Division of Research, undertook a detailed study of the status of the cottontail rabbit within the Commonwealth. At the conclusion of the investigative work, a complete report on the effects of past management practices, together with an outline for a new program, was presented in the GAME NEWS (Gerstell, 1937).

The studies indicated that the rabbit conditions then extant represented the acute point in a twenty-year period of decline, and that the crisis was the result of a greatly decreased cover supply, constantly increasing gun pressure, and an ineffective restocking program. Thus, it was stated that the problem faced was one of improving general food and cover conditions; providing retreat areas which would offer escape from the ever-increasing gun pressure; and finding a means whereby native Pennsylvania cottontails could be furnished in the numbers necessary for a sound restocking program. Furthermore, it was said that the solution of the problem, just as the causes which brought it on, would require a relatively long period of years and that it could successfully be worked out only by the whole-hearted cooperative efforts of landowners, sportsmen and conservation officials.

During the past two years the three groups of persons just mentioned have cooperatively strived along the lines suggested to improve rabbit hunting conditions within the State. Their efforts have met with unusual success and it is, therefore, the purpose of this paper to outline briefly the splendid results so far obtained.

REPORT ON PENNSYLVANIA'S • • NEW RABBIT PROGRAM

Having experimented in a limited way with the live-trapping and redistribution of rabbits and other forms of small game since 1931, a large scale program of the same type was started in 1937 and enlarged upon in 1938. During the winter of 1937-38 a total of 5,853 rabbits were live-trapped and redistributed within the State. With further development of the program, preliminary reports show that over 22,500 rabbits and smaller numbers of pheasants and other game were caught and replanted during the winter of 1938-39.

In this work too landowners, sportsmen and game officials cooperated. Many of the rabbits were taken by groups of farmers and sportsmen working with representatives of the Commission. Others were handled by private individuals working as agents of the Commission with or without pay, while salaried and part-time employees of the Commission accounted for numerous additional animals.

The bunnies were caught by three principal methods, box trapping, netting, and ferreting. For use in the first-mentioned method, a total of 15,000 wooden box traps were built between July 1937 and January 1939. They were constructed free of charge by the National Youth Administration out of lumber furnished by the Commission. Five thousand additional units are now in the process of fabrication and a total of 20,000 of them will be available for use during the 1939-40 season.

In the case of the netting operations, sportsmen and other interested individuals cooperate with officers of the Commission in the conduction of carefully planned drives, wherein the animals are captured by forcing them into wedge-shaped traps built of the twine netting. A complete

netting outfit was purchased and placed in operation in each of the Commission's seven field administrative divisions during the season of 1938-39.

Ferreting, which can legally be carried on only by employees of the Commission, is resorted to only on those areas where groundhog holes and other dens are particularly numerous, thus rendering trapping and netting rather inefficient.

During the 1938-39 season, native rabbits were live-trapped in varying numbers in 62 of the 67 counties of the Commonwealth. Accurate records of all costs involved in capturing the animals have been maintained in order to make a comparison with the cost of rabbits imported from the Middle West. Though the figures are only preliminary and therefore subject to slight revision at the close of the fiscal year when numerous small items can definitely be checked, the records show that almost exactly \$12,000.00 was expended for all activities, other than time and travel expenses of regular field officers, connected with the trapping program. Included in this sum were 10,000 box traps @ \$0.36 each, 500 carrying crates @ \$0.96 each, and 7 sets of netting equipment @ \$142.55 each, or a total of \$5,077.85. If the total cost of these traps, crates and nets be pro-rated over a period of five years, the 1938-39 trapping expenses, including supervisory salaries and traveling expenses, equipment, etc., but excluding the time and routine travel expenses of regular field officers, totaled \$7,937.72. This represents a cost of thirty-five and one-quarter cents (\$.3525) per rabbit. It may be compared to the seventy-two and one-half cents (\$.7250) per animal paid

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State Game Lands as well as State Propagating Areas are developed to provide suitable cover and food for game. Here a worm fence has been erected and food and cover producing trees and shrubs have been planted alongside it to create proper environment.

LAND, ITS CLASSIFICATIONS, AND THEIR MEANINGS

By R. A. McCACHRAN



Abandoned Farm Land.



Marginal Land along Forested Areas.



Unseated Land.

FOR the past twenty years the Game Commission has been acquiring land, most of which lies within the forested regions of the State and is recognized primarily as areas suitable for game of the larger species which are customarily found therein. During the more recent years, some of the purchases have been of the abandoned or idle farm land type located either along the edge of wooded territories or entirely away from the mountainous regions.

Both of these types of acquisition were considered chiefly from the standpoint of their value as game lands. A study was made of all tracts offered for sale before any contracts for their purchase were executed. However, during the time ensuing the date of a contract and up to that of its final execution, other considerations had to be given to each piece of land under contract for purchase. They are the legal and engineering activities necessarily conducted by representatives of the Commission prior to the conveyance of any realty to the Commonwealth. In connection with this class of work, such words as "seated" and "unseated" are encountered.

Excepting those persons who may have had experience with the various expressions used in connection with transactions in real estate land is generally considered the solid portion of the surface of the earth, as distinguished from water constituting a part of such surface. In acquisition procedure, however, whether conducted by an individual, a land company, a state or a federal agency, land must be considered from a legal as well as an economic viewpoint. When dealing with the legal status, its meaning includes not only the soil but everything attached to it, whether attached by the course of nature, as trees, herbage, water, or by the hand of man, as buildings, fences, etc., extending indefinitely upwards and downwards. This in turn brings up the economic side of the question, in which we meet with expressions such as "marginal," "sub-marginal," "abandoned" and "idle" land.

Inquiries are occasionally made with regard to the meaning of these several expressions and in what manner they are related to the acquisition of lands for conservation. Briefly stated, "seated" and "unseated" are expressions showing how land is assessed for taxation purposes and affect the amount of monies a landowner must pay in order to maintain a continuous ownership of his property; while "marginal" and "submarginal" deal with the economic conditions connected with the various operations conducted on the land, and pertain to the amount of money an owner may receive from his holdings by which he can make a living, pay the taxes and other expenses incidental thereto.

Legally defined, one interpretation of seated land is "land used for residence, cultivated, occupied or revenue-producing land"; while another states that "seated land as used in the tax laws is land that is occupied, cultivated, improved, reclaimed, farmed or used as a place of residence. And are those on which are such permanent improvements as indicate a permanent responsibility for its taxes." Unseated land is unsettled, wild or uncultivated, and has been legally expressed as "land which has not been farmed or cultivated, or which has not been cleared, or which after having been cultivated has been for a long period of time not used."

This classification, either as seated (improved) or as unseated (unimproved), is generally adopted by the assessors in the minor civil divisions of those counties where a larger percentage of their areas are wild, uncultivated and mountainous, and most of which is placed in the latter group. It naturally follows that the assessed value of land of this character is much lower than that which is seated, and with a correspondingly lower amount of taxes. Pennsylvania was originally an unbroken forest of over 28,000,000 acres, but by continuous cutting and clearing this has been reduced to approximately 13,000,000 acres, or over 46 per cent of the total area of the State. All, except a small percentage of this area, is of the cheaper type and is generally found on the unseated list. Most of the land purchased by the Game Commission, with the exception of the Game Farms and several other tracts were, prior to its conveyance to the Commonwealth, listed as unseated. The others were found in the seated lists.

In the opening paragraph, reference was made to certain legal and engineering activities carried on by employees of the Game Commission. The first of these is that of title searching, which is an examination of such public records relating to or affecting real estate as are established

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ANNUAL REPORT ON WILDLIFE ACTIVITIES

By G. E. SPINNEY

EDITOR'S NOTE: *Wherein G. E. Spinney, Acting Forest Supervisor, outlines some very interesting activities on the Allegheny National Forest.*

THE past year has produced a good many things of interest to sportsmen concerning Allegheny National Forest. The net area has been increased to approximately 432,000 acres, an addition of about 100,000 acres, all open to public shooting. Hunting is restricted on less than 2,000 acres of the National Forest, and since the entire area is primarily big game territory with emphasis on deer, the present restricted areas appear to be adequate.

Deer. If the number of deer taken is the criterion of success, then the most successful deer season ever known took place in 1938. We have estimated from road counts that there were over 67,000 hunters; 1,000 of whom took home an antlerless deer. This makes approximately one million and a half pounds of venison: Two pounds for every acre of land within the Forest boundary and twenty-four pounds per hunter.

During the antlerless season from November 28 to December 3, 1938, our technically trained wildlife men, including Barry Park of the Eastern Regional Office at Washington, D. C., weighed and measured 34 deer. The average dressed weights are listed as follows:

144—Fawns, both sexes	50.7 lbs. each
21—Yearlings, female	79.1 lbs. each
84—2½ to 4½ years	89.1 lbs. each
85—5½ years or older	97.3 lbs. each

We think most sportsmen will be astonished to know that a 100 pound doe is way above average.

Altogether the Forest Service has weighed and measured 1438 deer on the Allegheny National Forest. This information is being studied to learn if it will tell us something regarding the condition of the deer in the herd. Since the deer are taken as they come and not selected, it is reasonable to suppose that the entire kill was approximately in the proportionate age classes as shown above. We think that it is important to know that 43% of the kill was composed of deer born in 1938. It would appear that the average hunter is under the impression that button bucks are yearlings instead of fawns.

Based on the results of our fifteen game drives conducted directly after the close of the hunting season, there are still 40,000 deer on the Forest. This is believed to be several times as many as can be permanently maintained. The number of deer that an area will support is definitely limited by forage conditions. It is becoming increasingly obvious that many areas have been exhausted of their winter forage. Deer are starving in widely scattered areas. This can be remedied only by a further reduction of the herd. All logging and woods operations combined have not covered one per cent of the gross area of the Forest in the past two years. Cut over areas produce excellent deer range, but there is no immediate hope of forestalling the need for a drastic reduction in the deer herd.

Bears. Only about fifty black bears were taken on the Forest last season. The supply of acorns and other mast species was very low and it appears that most of the bears hibernated before the season opened. It is estimated that there is one bear to approximately each 100,000 acres.

Small Game. The cottontail rabbit heads the list for small game. The farm lands and scattered openings over the Forest are well suited to the natural production of this species. Comparison with past estimates indicates that rabbits have declined slightly in numbers. This seems to bear out the contention that the heavy deer population is holding down the population of small game. The snowshoe hare on the other hand shows a definite increase for the year. Woodchucks were plentiful, but not much hunted, which may be a good thing as they furnish holes for the other species.

Game Birds. The grouse at present is the most important game bird. This species is slowly increasing and should continue to increase for five or six years yet if the population cycle behaves the same as in the past. The hunter kill was slightly under 1937 in spite of the fact that there were more birds. This was probably due to a dry period which coincided with the open grouse season. The woodcock migration was somewhat later than usual, resulting in a lower kill for



Photo by John P. Baker, Oil City Derrick
Most of the bears hibernated before the season opened.

this species also. Quail, pheasant, and turkeys exist on the Forest, but in too small numbers to be of interest to hunters.

Fur Bearers. Skunks and raccoons increased to the point where they were commonly seen on the highways last year. The catch was reported at only 2,000 of each, but it is very difficult to get good figures on this. The State Game Commission is making a study of Pennsylvania's fur resources under the Pittman-Robertson Bill. We consider this to be a fine field for investigative work. In fact, the Forest has a study underway on beavers which is now in its fourth year.

The presence of several coyotes on the Forest created quite a lot of public interest. Two have been taken alive and a third killed by hunters. It is believed there are but two left; these make their home in the vicinity of Owls Nest in Elk County.

C.C.C. Contribution to Wildlife

In 1938 the C.C.C. camps put in more than 4,000 man-days of labor on projects of benefit to wildlife. Old orchards were treated to make them productive and to save valuable apple trees from being crowded out by forest growth. The number of miles of streams improved by the construction of small dams has been increased to twenty-two, and preparations have been made to continue this work by getting out logs and poles. One of the most important contributions was the planting of 227,000 fish, more than a third of which were of legal size.

A laboratory has been completed for the examination of diseased animals, and the preservation of stomach samples and other specimens for scientific study.

The annual game drives also constitute an important part of the

(Continued on Page 30)



A PLEA FOR THE SKUNK

By S. V. SEDLAK

CONDEMNED, but why?

If only, apparently, because its potent odor was used as the basis to judge by and determine its destiny—an unfair verdict to say the least.

The skunk is not as bad as so many people believe. It is as clean in habit as any other wild animal. The major distinguishing difference between it and other wild creatures is, of course, its self-defensive quality; and is according to nature's own design. The odor emanates from a thick, yellow fluid which is contained in two very small glands in the hindmost part of the animal. It is emitted in a stream which bursts into a mist-like spray which may move directly for twenty or more feet. Anything that gets saturated with this substance will retain the odor, depending on the amount absorbed, for as long as one year unless one of several remedies are used to counteract the smell.

A skunk does not throw off its scent promiscuously as some people suppose. When necessary, it can assert its "dynamic power" almost instantly; yet learned trappers are able to handle skunks so aggressively and so efficiently that when the job is completed they have clean, odorless pelts. I have released a number of unwanted or illegally trapped skunks without getting scented; I have taken live skunks out of the cellars of homes of people, while they quaked in anticipation of the worst, and have done a clean, odorless job. I know of cases where boys have carried live skunks right up and down the public-travelled main streets of towns, to the amazement of pedestrians, yet no odor was emitted. And then I read in a Bradford (Pa.) paper only recently that a policeman was called on to dispose of two skunks which entered one of the city's occupied dwellings, and that when all was said and done the officer emerged from the scene of conflict a very much delirious and odorous figure. So you see, gentlemen, it is only a matter of understanding or no understanding.

From the standpoint of fur value the skunk is rated as second in revenue derived. The latest available report issued by the Game Commission for the year of 1936-37 shows that 341,382 skunks valued at \$353,683.99 were taken; this represents about eighty per cent of the total catch for that year. You can, therefore,

readily understand what that means to the farmers, boys and regular trappers of Pennsylvania. In fact the skunk is the mainstay of many men and boys who respond to the call of the trapline; it means even more because when the cold and dreary days of autumn descend upon us, when outdoor work is lessened or comes to a standstill, many a needy man, will trap skunks in order to make enough money to tide him and his dependents through the winter season. And this money is passed right on through the channels of trade.

And yet you want to take all protection away from the skunk? Through your ignorance you commit gross injustice to yourself. You do not see the picture through the eyes of the naturalist-trapper.

If what you advocate is made law, this is what will happen. The skunk will automatically fall into the same category as the weasel, wildcat, and the fox and be among those classified as predator or "vermin." As such it would be destroyed, perhaps wantonly. It would create localized bounty incentive and the skunk would be subject to even more drastic destruction. It would result in "vermin" drives, and the skunk population, by reason of the fact that it is easy to locate, would not survive long under "condemned" pressure.

The fur market would be flooded with worthless, inferior skunk hides bought up for a few cents each; they would be dressed up with care by expert fur handlers, in this case, swindlers, and passed on to the public, perhaps to you, as bargains in fine furs which in reality would be disguised trash under any name or trade name.

But gentlemen, immediately after your decree would be acknowledged, it would open up a marked inroad on your game program. It would permit smoking out skunk dens, and any hole in the woods might be a skunk hole. Smoking does not always produce the desired result; and may cause to kill, or choke to death, the skunk or any other occupant of the hole. It would allow the digging out or bursting open of skunk dens. And do you realize that skunk holes in the ground are rabbit holes too? You desired that traps be set not closer than five feet to any hole, den or refuge of a wild animal to save the rabbit population. Your wish was granted and that was all right. But if you reclassify the skunk from fur-bearer to predator, den bursting would immediately be legalized. Oh, you say a provision would be made to eliminate that? Quite so. But then

you would defeat the very purpose of your plan.

The Game Law specifically states that skunks may be killed at any time and in any manner within all boroughs and all cities in this Commonwealth; it declares too that skunks may be killed and their dens may be destroyed on cultivated lands when the animals are caught destroying personal property. Could anything more be desired?

Skunks are carnivorous creatures and they live on carrion to some extent. Occasionally they do clean out a valuable game bird's nest but this is a minor matter when all things are considered.

Some of you, no doubt, have seen skunks on the farmlands during the summer or early autumn; you observed them hopping around here and there, plucking at something now and then, and all this was amusing to you. Careful scrutiny would have disclosed that the skunk is your friend, and mankind's friend, because it consumes many insects. In analyzing the stomach contents of a carnivorous animal it does not necessarily prove that the animal killed what it ate; but in the case of the skunk there is hardly room for doubt. It is certainly insectivorous. The skunk gorges itself on beetles, bugs, flies, etc., throughout the summer and early fall and when the wintry blasts descend from the north it seeks a place of refuge in a protective subterranean cavity and hibernates there until spring. The skunk is the only quadruped among all our fur-bearing animals that thrives on insects and for this reason, if for no other, it deserves a high place in your esteem.

And then to further substantiate the fact that the skunk is a valuable animal we need only to peruse in part the United Press report of March 6, 1939, issued at Washington, D. C.: America's most dangerous enemy, a Government report shows, has no army, navy or air force. The Government annually spends many millions of dollars waging a war against insects—which cause damage mounting into hundreds of millions of dollars each year. It is a war for survival of the human race against an ever-threatening encroachment of plant pests. —Any let-down in this warfare makes past efforts practically worthless and calls for redoubled efforts in the future. Insects can multiply so fast under conditions favorable to them that a comparatively small number soon restores their ranks.

The Artificial Propagation of Ruffed Grouse

By C. B. LEHMER *

IT IS known that the artificial propagation of ruffed grouse has been one of the most difficult problems game breeders have ever attempted to solve; yet they continue to attack the problem year after year. Why should so much energy be expended to solve such a problem? Will the solution be worth the effort? When one who is acquainted with this bird in the wild from hunting experience or otherwise is asked these questions, there is no doubt of the answer. To perpetuate this greatest—this king of American game birds or present and future generations any effort expended is justified.

To completely tell the story of the history of the attempts to artificially rear this bird would require hours and hours of the readers time. It is not the purpose of this paper to dwell on the disappointments and failures of these men who have spent much time on it, but rather to dwell more on the successes and the knowledge they have gained. However, the writer cannot refrain from commenting on the repeated successes followed by disappointments, the hopes followed by failures, the heartaches and mental agitation encountered by the group of scientists and others who have struggled with this problem for many years. Special mention should be made of Dr. A. A. Allen, of Cornell University, who has probably done more experimenting with this bird than any other man living.

The question might be asked, suppose this bird could be propagated in sufficient numbers or stocking, would the results justify the effort? Would the birds "go wild"? Would they turn out to be the grouse we know in the forests or would they be easy prey for predators and the gunner? When the white man first came to this country the bird was as tame as present artificially raised grouse; so tame that it could be killed with a stick. Fortunately the bird has so capable a brain that a brief experience with man serves to "educate" it and it becomes quite another bird. This is confirmed by experiments with liberating hand raised grouse in New York State in 1931. The birds were marked with bands and bright feathers on their tails. They had been raised entirely on wire and when first placed on the ground they were bewildered, but within two weeks flushed at 75 feet just as wild birds.

There is one other justification for the attempts to propagate this bird, and that is the influence stocking might have on the grouse cycle curve. It is a commonly conceded fact

that young birds are the ones to suffer most during the "lows." With large numbers of cheaply, artificially raised older birds to liberate at the low periods perhaps the population could be prevented from falling as low as formerly and assure a more rapid recovery.

The ruffed grouse was one of the first American birds, if not the first to command a full length article in the *Philosophical Transactions of the Royal Society of London* for the year 1754. Thus during the middle of the eighteenth century, when our forefathers were still content to powder their wigs and dance the minuet under British rule, this bird received the recognition deserving of such a fine game bird. Mr. George Edwards, a leading zoologist of the time, was responsible for the communication, "On the Pheasant of Pennsylvania, the *Tetro umbellus* of Linnaeus", which is our own ruffed grouse, *Bonasa umbellus umbellus* (Linnaeus). Among other interesting statements appeared this, ". . . they cannot be made tame. Many have, to their disappointment attempted it by rearing them under hens; but, as soon as hatched, they escape into the woods, where they either provide for themselves, or perish."

In 1812 Alexander Wilson in his *American Ornithology* says that, "They have often been taken young and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until fully grown."

Conflicting statements about tameness they are, but agreed in one fact and that is concerning the unsuccessfulness in the raising of them. Many were the attempts to rear the ruffed grouse in captivity, but either without success or findings have never been published. Up until the time Dr. A. A. Allen of Cornell University started to experiment with the raising of this bird a few, Hodge, Fields, McVicken, Manross and Job had been successful in raising a small number of birds. The methods employed were all more or less similar in that they used bantam foster mothers for



eggs taken in the wild, and reared the young in small enclosures of more or less natural cover; permitting the hen to run with the chicks. The general result, so far as can be told was the loss of a number of young almost immediately or during the first few days, the loss of the majority when from three to six weeks old, and the successful rearing of from one to as many as six to maturity, only to have them die later. With this information Dr. Allen set to work using funds supplied by the American Game Protective Association to carry on his experimental work.

He had at that time some experience at rearing pheasants and thought he knew considerable about the ruffed grouse since he had been hunting it for twenty years. However, Dr. Allen learned in the ensuing years that knowing the bird in the wild and knowing it in captivity was an entirely different matter.

Forty-five eggs from wild nests were obtained by advertising \$5 as a reward for reporting undisturbed grouse nests. In the ten years the offer was made not one person collected it who started out to find nests. Always they were found accidentally. This was the most satisfactory method of securing eggs, since it was learned that the best trained dogs could not locate nesting birds by scent. The eggs were set under bantams and a light leghorn, but the leghorn was too heavy and crushed her eggs. The bantams brought off nineteen young on May 29, 1929. They refused to brood in the 15 x 30 foot inclosure of half inch wire, so they were shut into one corner until they learned. In spite of this treatment they paid no attention to the bantam until at least ten days old. Natural insects supplemented by cracker, eggs, and sour milk proved to be

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* The Pennsylvania State College Department of Zoology and Entomology. Zoology 42, Game Birds and Mammals.



"The ancient vehicle scraped, shuddered, and bogged down to an abrupt stop."

KINGS FOR

By STEWART PARNELL

Illustrated by L. E. Carroll

now and then be useful on a hunting trip. You drive, John. We'll go ahead and keep you posted. I don't think they have been working on this road more than a half mile farther."

After stoning a dozen or more low places, they came at last to solid bottom. Bumping along the original mountain road several miles, they made a left turn onto a faint trail leading downward by gentle stages through a meadow to a cabin.

"There she is!" John exclaimed happily. "Just as we left her in the spring when we were up here fishing. Probably been some folks camping in it this summer. They usually do. Wonder if there's any wood cut. Not much daylight left."

Thirty yards in front of the cabin, a spring bubbled from the side of the slope, its pure cold waters soon joining the mountain trout stream which flowed along the cabin on the left. The cabin seemed to have been dropped near the middle of a gigantic natural depression guarded by a rim of mountain ranges wherein deer and kindred forest creatures could obtain sanctuary in rough and stormy weather. Situated on the top of the mountains, this woodland haven, created by nature, offered not only protection to wildlife but also healing balm to the harried souls of city dwellers who yearned for a short respite from crowded centers.

While the others unloaded duffel bags and other hunting equipment, John opened the cabin's unlocked door, made a hasty inspection and reported: "Seems to be in good shape. There's enough wood to cook supper but we'll be needing some big stuff for the night and kindling for the morning."

The Judge's Irish setter, Lady, acquainted herself with the new surroundings, happy and excited by the approach of her real reason to exist, the hunting of birds and particularly the monarch of native game birds, the ruffed grouse. Charlie started a fire in the cook-stove, unlimbered supplies and utensils, and prepared to throw together a quick mess of bacon and eggs to allay hunger until morning. John and the Judge, in the failing light of day, hustled to an old slab pile, a reminder of earlier lumbering days, and each returned with an armful of slabs and bark. The "wood detail" made another expedition into the nearby brush, dragging out two dead trees which were log-size.

While John stowed away the hunting gear in the cabin, the Judge tried his hand at chopping wood. He put plenty of effort into the job but somehow his aim was bad, the axe blade slid and slithered up and down the log, and the jagged result was distinctly the work of a rank amateur. His breath came fast, the sweat started to pour and roll, his hands began to smart and sting, but the log resisted with diabolical tenacity and amputations therefrom were few and labored.

Presently, John came out on the porch and watched the Judge for a spell, his huge shoulders shaking with silent laughter. Then, with a grin, he inquired: "Just what are you doing, Judge?"

"Why, you flathead, I'm chopping wood," the Judge panted. "What do you suppose I'm doing?"

"YOU can't make it, John. Stop before you get stuck permanent and we spend the night out here."

"Aw, keep your shirt on, Judge," John drawled, meanwhile manhandling the steering-wheel and gears. "I've been coming up here for years and never failed to get through. We'll make it."

The Judge shook his head dolefully and doubtfully as the ancient vehicle lurched, bumped, and snaked its way along the deep ruts of the mountain road. Then, the car scraped, shuddered, and bogged down to an abrupt stop. John wildly tried low and reverse, his confident air replaced by anxiety and finally despair as the wheels spun and the car moved not a whit.

Dismally, the occupants, John, the Judge, and Charlie, looked at each other for a moment. Then, they got out and, as is usually done, looked under and about the car, all of which availed nothing. The Judge looked at his watch, glanced at the sky, and sort of smirked: "So you've been coming up here for years and never got stuck, eh? Pity you didn't take advice instead of being pig-headed. Be dark in an hour and we're about five miles from camp. Did you ever sleep three men and a setter dog in a small car all night up on a mountain without any supper? It'll be cold enough to make ice before morning."

John grumbled: "Never was this way before. This government business of improving these mountain roads is no good. They don't improve them, they ruin them. This road used to have a rock bottom. Sure, it was rough but we could always get over it. Now, look at all that mud and dirt piled on the road. You can't reach bottom. We'd better get a sapling, hoist'er up and pile some flat stones under the wheels. That'll give us clearance. What do they want good roads in the mountains for anyway? Its bound to ruin the hunting and fishing. Too easy to get to."

Using a stout sapling with a large stone as a fulcrum, the Judge and Charlie lifted one wheel and then the other while John piled stones under the tires. The Judge looked up the road: "I suppose, since we are in the business of road building, we might as well walk on ahead and fill the low places. If we don't, we'll be doing this same job over again. How about it, John?"

John did not come back at the Judge, which was unusual, but Charlie said: "That's a good idea and sensible. Even a lawyer can

A DAY

EDITOR'S NOTE: We welcome another new author who combines both humor and good sound common sense in his stories. We hope to hear more from him later.

"Well," John said with a condescending droll, "It's sort of hard to tell what you are doing. Looks to me like a cross-eyed beaver's been working on that log. Here, Judge, give me that axe and I'll show you how."

The Judge's pride reluctantly yielded to tired muscles and sore hands. With a minimum of expert strokes, John finished the job, and then needled the Judge: "You may know your stuff in a court room but your ignorance about chopping wood would fill a big law book."

The Judge bristled: "I'll admit you're the better man wood chopping but I'll bet you a box of shells that I will knock down more birds than you and Charlie together."

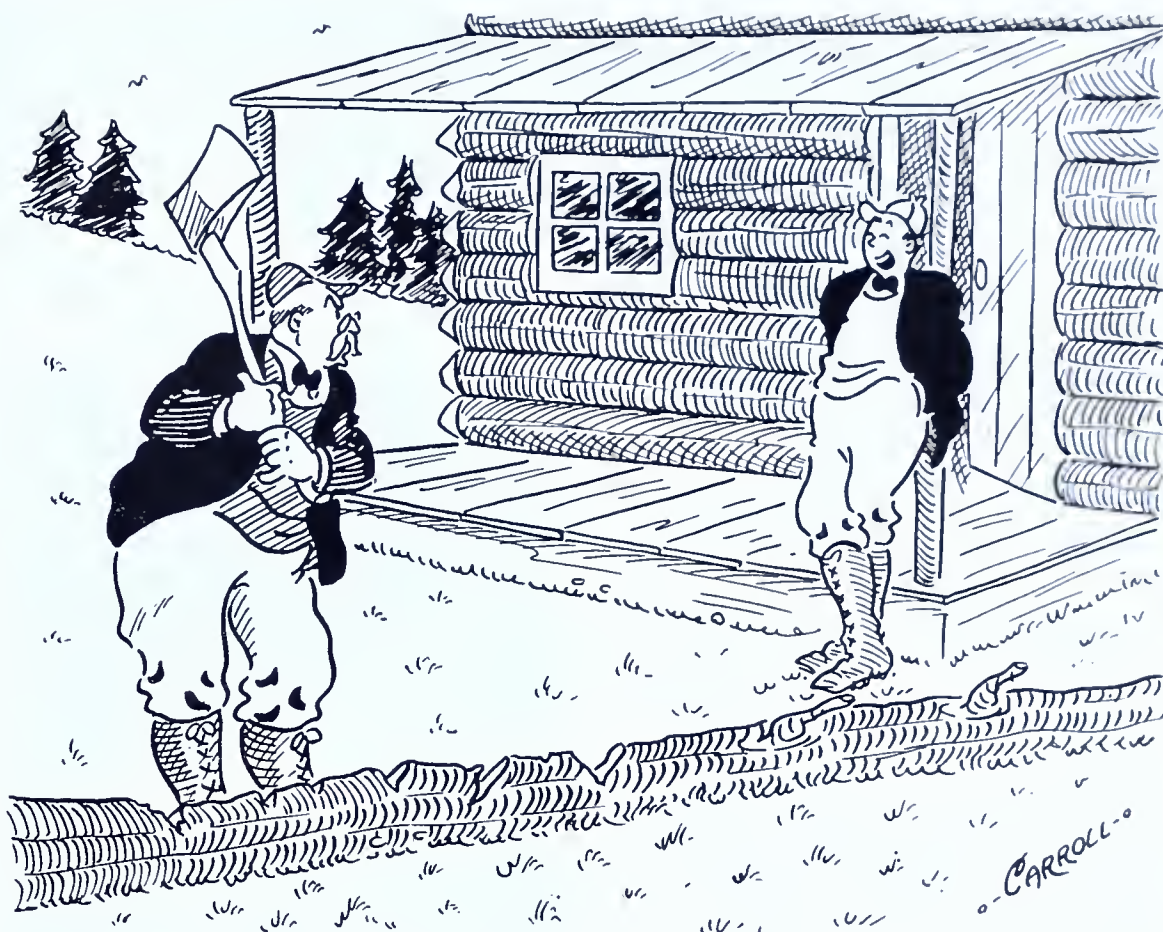
"Okay by me," John laughingly agreed as they entered the cabin. Constructed with rough lumber, lined with tar-paper, and the cracks sealed with strips, the cabin was stanch and comfortable, being about twenty by thirty feet in size. In one end, three two-story double bunks had been built which would accommodate twelve persons, leaving ample room for cots to take care of an overflow. A regulation cookstove stood in one of the corners farther away from the bunks, the oven of which stove being generally used to dry kindling wood for starting fires. Along one side near the middle of the cabin, there was a heating stove large enough to handle three foot logs. Although this stove was used primarily for heating purposes, it afforded additional cooking space and buckwheat cakes were usually baked on it because of the slower fire.

A large table with oilcloth cover occupied the center of the remaining space. The door opened to the south. Facing the door from the inside, the gun rack stood against the wall on the left with the camp rules posted above it. Still farther to the left, the first aid cabinet, fully equipped, hung on the wall, a stern reminder that accidents do happen and that caution and safety first are of primary importance. To the right of the door, several shelves held plates, cups and saucers, knives, forks, and spoons. Under these shelves, sundry and various pots, pans, skillets, and a griddle hung on nails.

Charlie had the fire going in the cookstove. The pleasant odor of sizzling food made the nostrils twitch and mouths water with desire. Turning from the stove a moment, Charlie said: "John, there's been somebody using this cabin recently."

"Oh, I don't think so, Charlie," John replied somewhat surprised. "In the summer, different parties of folks drop in here and camp for a few days. We never lock the place. But, they always leave it in good order. You can see for yourself. Fact is, when it gets daylight tomorrow morning, you can see on the outside of the door where folks have scribbled their names and thanked us for the use of the place. But, it's the first of November now and there could hardly have been anybody here for the past two months. Too cold. What makes you think there's been someone here recently, Charlie?"

"I was about to wipe off the oilcloth on the table," Charlie said. "I ran my hand over it first and it didn't leave any mark. Somebody must have washed it within the last week or so because there wasn't any dust or dirt on it."



"Why, you flathead, I'm chopping wood," the Judge panted. "What do you suppose I'm doing?"

"There's something that'll surprise you," John declared. "You can believe me or not, but there just isn't any dust up here. You are so far above the dirt and grime of the lowlands up here that the air is free from dust. There are no roads handy. The fields and woods are clean grass and undergrowth. There's nothing to make dust. If that table isn't touched for several months, you wouldn't be able to make a mark on that oilcloth. I've noticed it before."

"Amazing," exclaimed the Judge. "What a blessing that would be to our wives!"

"Yes," Charlie remarked, "And what a blessing to be spared the pain of so dog-gone much housecleaning with the usual semi-annual destruction and misplacement of valuable property, favorite hunting and fishing stuff. Well, the bacon and eggs are done. Let's get outside of them and then hit the hay. A good night's sleep'll put us in fine shape to knock off some birds tomorrow."

"Suits me," stated John, pulling up to the table. "Come on, Judge. I have the only chair. But, any one of those boxes'll do. Anyway, a camp table is to eat off and not to sit at."

For the next twenty minutes, conversation languished in deference to the food. Hunger having been appeased, a short lull ensued, punctured by the scratching of matches and three columns of pipe smoke. Soon, they reluctantly aroused themselves, washed and dried dishes, and prepared for bed. They made up a double bunk for John and the Judge and a single bunk for Charlie.

Although the cookstove had heated the interior of the cabin almost to the point of discomfort, they rammed the heating stove full of logs, realizing full well that a cabin warms quickly and cools likewise and outside it was cold enough to make ice. Between two blankets on the bottom and seven blankets on top, John and the Judge snuggled down together, leaving Charlie the job of turning out the lamp. After puttering around a while in perfect contentment, Charlie closed the valve on the gasoline lamp, climbed into his bunk, and leisurely arranged his blankets, knowing from past experience that the lamp would burn about two minutes before the flame became extinct.

The cabin hadn't been darkened more than five minutes when Lady, the Judge's Irish setter, stealthily picked her way between the two men in the double bunk, sighed daintily, and joined the party. The

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MANY of our rare and beautiful furs are gone, or becoming scarce, and little used, but others are holding their own in surprising abundance. Rabbit, muskrat and ranch raised foxes supply much of the fur worn today, but next to these the long, light, fluffy furs of the coyote, or little wolf, is frequently seen. Its abundance, beauty and moderate price have brought it to the front for ladies' wear, especially in capes, collars, cuffs, and trimmings. Its long blowy tips and soft colors from silvery gray to rich buffy browns fit in well with a great variety of costumes and complexions. It is warm and light, wears well and looks well.

Unless coyote fur runs to an unexpected price there is going to be a permanent supply with no danger of extermination or depletion of the species. During the winter of 1937-38 prime skins brought the trappers about five dollars apiece and considering their large size they yield a lot of fur for a little money. The fur is at its best during November and December, but much is taken too early and too late to be prime and is thrown into a cheaper grade or is entirely wasted.

Since the value of these interesting animals to the trappers of the country and the fur industries run into the millions of dollars every year it may be of interest to the general public to know something about them, their habits and the method of procuring their fur from one who is not in the trapping nor fur business. My sympathies are all with the coyote but that will not change the facts in the case.

Coyotes differ from our large wolves in smaller size, slenderer form, larger ears, finer fur, and entirely different voices and dispositions. Their intelligence equals that of the wolves or our best dogs, but their keen, alert assurance exceeds that of either, and of even the foxes. They thrive on our civilization and defy man and his traps and guns and dogs. Over much of their range they are as abundant today as they were fifty years ago when I began to study them and their range is extending. Probably a million are killed every year, but not more than the normal increase.

At present they range from southern Mexico to northern Alaska and from the Pacific east to Michigan and Indiana. They prefer the open country and have pushed eastward as the timber was cleared off.

They pair for life and increase rapidly, averaging six or seven young to a litter each year. The young mostly grow up except in a sheep country where the dens are hunted and the young destroyed to protect the flocks. The trappers get most of the young of the year, but few of the old coyotes. There is no animal more difficult to catch in a trap than an old

COYOTE FUR

By VERNON BAILEY
Former Chief Field Naturalist
U. S. Biological Survey



Two prime coyotes before they were skinned at the Nevada Ranch shown in lower left.

and experienced coyote. One that has lost a foot or a few toes in a steel trap is pretty safe for the rest of his life. And it is surprising how many have been in traps.

Coyotes are good hunters and locally get more than a fair share of the small game. Though true carnivores and meat eaters they are omnivorous in taste and will eat anything from mice to deer or crickets to horned larks. They are especially fond of watermelons, grapes, and fruit of the prickly pear, but will make a meal on any kind of fruit, acorns, nuts or grain. They are good scavengers and will clean up all that the deer hunter leaves behind, and dead

animals generally. They are fond of poultry and do not hesitate to enter a chicken yard or turkey pen at night if left open.

In farming districts they are often of recognized value in holding in check destructive rodents, rabbits, ground squirrels, mice and gophers, but in other districts where live stock and poultry are raised the coyotes are expensive borders. As farming and stock raising are generally combined the coyote problem becomes too complex for easy solution. It is evident however that in some places the numbers should be reduced far more than in others.

Two examples from recent field work in Nevada and California will illustrate different phases of the coyote problem. During December, 1937, I joined a trapper in a Nevada valley some forty by fifty miles in extent with irrigated farm land in the middle. Much alfalfa, live stock and poultry was raised in the valley but also great numbers of rabbits, ground squirrels, mice and gophers occupied the desert as well as the cultivated land. Coyotes were abundant at the beginning of the trapping season, but my trapper friend had taken ninety-nine coyotes when I left on December 14. Other trappers we estimated had taken about three hundred coyotes in the valley and another hundred would be gathered before the close of the season.

Probably half of the coyotes of the valley had been taken by farmers and farm boys, bringing in some \$2,000 to a community that could make good use of this annual fur crop. There were no government trappers nor any poisoning in the valley and either would have been unnecessary and very unpopular. There were no complaints of stock or poultry killed by coyotes in this valley, and the farmers generally recognized the fact that rabbits and squirrels and mice were kept well under control by mainly coyotes. A significant fact was that all of the coyotes caught were very fat and most of their food was jack rabbits.

With approximately half the coyotes in this valley caught and sold for fur there were still enough to take care of the surplus rabbits and other rodents and produce another crop of fur next year. My only criticism was that they were mostly caught in steel traps with unnecessary suffering. Some of the trappers have agreed to next year use a more humane type of trap.

Another type of country was visited in southern California, a mild valley near the Pacific Ocean where fruit raising is the principle industry. Here the coyotes have not been much disturbed even by trappers and they are twice as numerous as on the desert side. Their fur is not as long and beautiful and

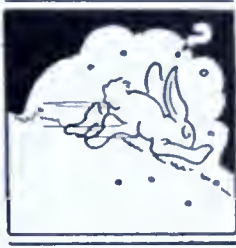
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Left to right: Ten prime coyote skins at Nevada Ranch that sold for \$50.00 in 1937. Coyote in a verbal trap, such as a few of the more skillful, intelligent and thoughtful trappers use. A two month take of coyote skins with a bear, a badger and a few skunks on a western Montana Ranch —about \$350 worth of fur to keep the wolf from the door of a large family during winter.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

TRAINING HOUNDS ON DRAG

Q. I have a coon dog that I think will make a field dog and I want to try it out. Please let me know if I may try him out on my place by using a bag drag.

W.S., Jr.—Malvern, Pa.

A. The use of a drag to train your raccoon hound during the closed training season, April 1st to August 20th, is strictly illegal, under an opinion given us by competent legal authority. It will therefore be necessary for you to wait until August 20th to train your dog, even though you use only a drag to do so. This applies whether the training is done on your own home grounds or elsewhere.

* * *

RIFLES NOT INCLUDED IN THREE-SHELL LIMIT

Q. Does the three-shell limit apply to a .22 calibre rifle or revolver for hunting small game?

R.P.—Millvale, Pa.

A. The three-shell limit in Pennsylvania applies only to pump shotguns and does not, under any condition, apply to a .22 calibre rifle or revolver. Under the Game Law, it is unlawful to hunt any wild birds or wild animals, *other than big game*, with a magazine shotgun containing more than three shells at one time in the magazine and chamber combined. The three-shell limit on shotguns is therefore not applicable to big game hunting.

* * *

LIVE MUSKRAT IN CAPTIVITY

Q. Will you kindly inform me in detail of the requirements for keeping fur-bearing animals in captivity, with particular reference to a muskrat? It will not be kept for commercial purposes for at least three years. The muskrat will be held for experimental purposes only.

J.K.—Old Forge, Pa.

A. If the muskrat which you desire to retain in possession alive was captured lawfully during the open season on these fur-bearing animals in Pennsylvania, you will not require a permit of any kind to keep it in possession indefinitely, as the Game Law gives you this right. However, if at any time you desire to raise muskrats for commercial purposes, it will be necessary for you to first take out a fur-farming permit issued by the Game Commission for a fee of \$5.00 a year,

HUNTING MIGRATORY GAME BIRDS ON OPENING DAY

Q. I have a Migratory Game Stamp attached to my hunting license which states that the shooting hours are 7:00 A. M. to 4:00 P. M.; and on the opening day of the season for small game the license states that there shall be no hunting before 9:00 o'clock A. M. Does this affect the shooting of migratory birds also? Some sportsmen contend that the State Game Commission lacks the power to restrict the shooting hours on migratory birds other than those contained in Federal regulations.

H.J.M.—Leesport, Pa.

A. Under Federal regulations, the several states are given authority to give additional protection to migratory game birds to that afforded them under the restrictions of the Federal government. The Pennsylvania Game Commission was therefore within its right in declaring that there shall be no hunting of migratory game birds before 9:00 o'clock on the opening day of the small game season last year. Any person who hunted such game birds prior to 9:00 o'clock on that day subjected himself to prosecution and a penalty of twenty-five dollars (\$25.00) under State law.

* * *

HUNTING GROUNDHOGS WITH A DOG

Q. Is it possible for me to get permission to hunt groundhogs with a raccoon dog? He does not chase anything but woodchucks.

R.H.—Danville, Pa.

A. It is strictly unlawful to hunt groundhogs with a dog in Pennsylvania during the breeding season for wild birds and wild animals which is April 1st to August 20th. The Game Commission has no authority to issue a permit to use your dog to chase or hunt groundhogs during that season, even though you do not dig out or kill the animals. It will therefore be necessary for you to wait until August 20th to hunt woodchucks with a dog.

* * *

RAISING MINK

Q. Is it necessary to have a permit to raise domesticated mink in this State? If so, is there any charge for such permit?

E.A.S.—Lundys Lane, Pa.

A. A fur-farming permit is necessary to raise mink for commercial purposes in Pennsylvania. This permit is issued by the Game Commission for a fee of \$5.00 a year. There are certain restrictions on disposing of fur bearing animals from such farms,

the details of which will be given to any interested person directing an inquiry to the Game Commission.

* * *

POSSESSION OF LIVE GROUNDHOGS

Q. Is a permit required to keep a groundhog as a pet? If so, what is the cost?

C.P.—Connellsville, Pa.

A. Sorry, but inasmuch as the Woodchuck is now a game animal, its possession in captivity alive is unlawful unless it was captured prior to June 3, 1937, the date on which it was given protection. The Game Commission does not issue permits for possessing woodchucks captured in a wild state in Pennsylvania after that date. The Game Law requires that the groundhog as well as all other game animals except the raccoons be taken with an approved gun or bow and arrow; it is, therefore, impossible to legally capture a woodchuck alive under present regulations in Pennsylvania.

* * *

LICENSE NECESSARY TO HUNT CROWS AND FOXES

Q. Is it lawful to carry a gun into the woods of Pennsylvania in pursuit of crows or foxes, without carrying a hunting license?

E.I.S.—Robesonia, Pa.

A. It is unlawful to carry a gun in the fields or forests of this State for the purpose of hunting such unprotected species as the crow or the fox, unless the hunter is in possession of a proper hunter's license and displays the tag on his back. The Game Law requires this license to hunt or kill any wild birds or wild animals, including the unprotected species.

* * *

SALT FOR DEER

Q. Is one allowed to set a salt-lick for deer or any other game at any time or any particular place?

G.B.—Barnesboro, Pa.

A. While there is no objection to putting out salt for deer at certain seasons of the year, preferably spring and early summer, it is illegal to establish a salt-lick for the purpose of attracting deer to kill same at the lick. If you desire to feed salt, it should be placed at different locations and not at the same place all the time, so that deer do not get into the habit of coming to one location. Feeding of salt should be discontinued in the fall and winter months.

WHEN is a loaded shotgun cartridge, or rifle or revolver cartridge, too old to use? Too battered outside, or too far gone inside?

About the condition of an egg, or of a piece of fish, you usually have ways of telling; but the same standards fail when ammunition becomes stale or spoiled. Some of the defects in powder, bullets, primers and cartridge cases that make shooting uncertain, or dangerous, can be illustrated by an incident of last winter.

We were taking a winter look-see back into the mountains where we camped, and the camp was a sound stone building with a snug, dry roof. A six-mile walk, temperature zero, a cutting wind, snow 18 inches deep, and a crust that let you down every fourth step, gave us beet-red faces and a desire to rest for a while in the glow of flames.

Across one end of the clean, dry room of this stone camp building, when we opened the unlocked door, was a bunk filled with straw! That yellow, tinder-like material looked good to us. We stuffed a big handful in the stove and threw billets of wood on it; and applied a match.

It was one of those big, old-fashioned matches you can scratch on your pants, giving a hot flame two inches long; and it was one of the only five we seemed to have along.

Well, the straw didn't take fire. Not with that match, nor with three others. For the fifth and final match, we went out in the zero wind and gathered some dead pine twigs, and whittled them in the time-honored way. That stuff caught fire, and we thawed out, and eventually we lived to return.

The straw refused to burn because it had absorbed moisture. While it looked dry, and rattled in our hands, it contained so much water that it only smoldered in the wood blaze.

Now, smokeless powder is a good deal like straw—some kinds more so and others less so, to be sure, but it is all absorptive of moisture from air. In a cartridge we think we have it sealed tightly, yet new air is forced into the cartridge, and some of the air inside is sucked out, every time the cartridge changes from warm to cold. The same thing happens when the barometer rises and falls.

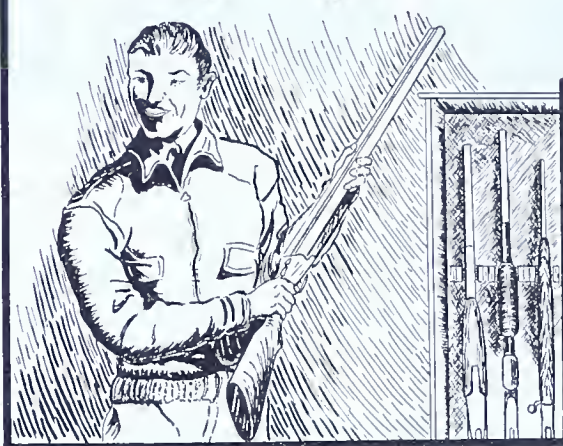
That change of air carries moisture—the same moisture that enters the woodwork of your house, causing the doors and drawers to stick. The moisture condenses on the inside of the cartridge, just as moisture gathers on the outside of a water pipe, or on your glasses. The grains of powder take up the drops like a blotter.

Cartridges can not be sealed tightly enough to prevent moisture entering.

It is true that shotgun and metallic cartridges seem to be waterproof. But the straw in the stone camp seemed to be dry. Eleven years ago in the woods I lost a 405 Winchester cartridge which was found last year, laid away until this year, and it fired the other day when tried. We have 45-70 army cartridges of the year of Custer's Big Horn battle, and others of 1888, of which half still will fire. (Although an old Springfield succeeds in firing more of them than a Winchester rifle.)

Years ago Hercules Powder Company dumped a pound can of one of its nitroglycerin-base powders in a goldfish bowl—right down among the fish. Whether it was hard on said fish we don't know, but it's a fact that twenty years

GUIN TALK



KEEP YOUR POWDER DRY

J. R. MATTERN

later the powder was fished out, dried with blotters, and ten minutes later loaded in shotgun shells and fired.

But just because a cartridge and gun makes a noise we must not get the idea the shot is accurate, or effective. I have the remaining shells of a box of nice red 16-gauge loads which cough out a handful of shot every time you pull the trigger. But the pellets hardly bury themselves in soft pine of a corner door. A hot, dry rifle cartridge may throw its bullet a foot higher at a hundred yards than a cold, damp cartridge.

If the dampness has been at work long, the chemicals of the powder may deteriorate. The War Department checks its powder every few months, and discards those "lots" which begin to go bad.

The primers in your old cartridges deteriorate quicker, and more, than the powder. They are carefully formulated and manufactured, in the first place, to produce a jet of flame just about so long, with such and such a temperature. As their chemicals break down, or become moisture-laden, their flame decreases in length and heat.

When that happens your powder smolders for an instant before exploding in the regular way. You may have hangfires, and swing the gun muzzle around until it points at somebody's feet about the time the cartridge goes off. Or the hangfire may be even longer, permitting you to open the gun, and receive the shell and gases in your face.

Usually, however, the hangfire is so brief you do not recognize it as such. You just have time to move your gun about two feet off the game or the target before the pellets or the bullet get under way. Such cartridges sound all right, but with them you don't hit anything.

The powder charge is gauged or weighed to a fraction of a grain-weight in every cartridge. The bullet is seated to a certain exact depth, and the brass case is sized to grip it with a set hold. In shotgun cartridges, the wads are pressed on the powder with just the right number of pounds; and the mouth of the shell is crimped just so.

This "condition of loading," and degree of confinement is required to burn that charge of powder effectively.

If there is much less confinement, the powder develops only part of its strength. That happens

when paper shotgun shells swell, or have their crimps softened, or battered.

If there is much more confinement, the powder goes wild in pressure developed; and may burst the gun; or at least throws the bullet wild. That happens when a rifle or revolver bullet is jammed back into the shell, or a brass case is badly dented.

Bullets with battered or deformed points have two well-known errors in flight. Suppose the point of the bullet is bent to a side, or one side is sliced off a little.

Because its point and the whole bullet is thrown sidewise a little by the gas at the gun muzzle, such a bullet flies off at a slant from the true line—a foot or more in 50 or 100 yards, and double that at double the distance, and so on.

Because one side is weightier than the other, such a bullet corkscrews through the air, with the spin given it in the barrel twist. That is, it corkscrews around the slanting line of flight mentioned.

A word is in order here about that matter of the old single-shot Springfield rifles sometimes firing their aged cartridges which would not fire in a Winchester rifle. The old Springfield has a heavier hammer and a stronger mainspring. You pulled the trigger, and waited around until the hammer sledged down on the primer and produced results. That slow lock-time probably accounted for the low average of Indians tumbled from their saddles when they were circling a wagon train within 200 yards, and sometimes within 100 yards.

The newer guns have lighter hammers, and some of them no hammers at all, but little awl-like primer plungers that stab forward like lightning to accomplish their job on the primer when the trigger releases them. They make hitting—Indians or woodchucks or paper targets—a whole lot surer and much easier.

But they require that the primers be first class in every respect. They won't handle poor primers so well.

I've seen a Colt's revolver filled with oil (slowing up the hammer movement a little), which fired certain old cartridges when pointed downward, and of course with its hammer striking downward. But when pointed upward, and its hammer-strike overcoming gravity, it failed to fire more of the same box of cartridges. Such little things can make the difference with old cartridges.

And of course there was the deer hunter who failed to fire when the big buck jumped up from the other side of a log one snowy November day. We investigated his sanity and his personal reflexes, but they were apparently no more off-color than similar qualities in the rest of us, out in such weather. We even began to believe his story that his Krag rifle wouldn't fire when he tugged and yanked at the trigger.

Then we discovered he had greased his Krag. He had greased it with chicken grease. We built a fire, took the bolt apart and used a whole bandana handkerchief to wipe off surplus fat, and behold! the cartridges were not "too old," after all.

It is remarkable how long you can store modern ammunition without much deterioration. Both shotgun shells and metallic cartridges are amazing sure-fire. That's the truth of the matter. BUT whenever you want topnotch performance, and utmost certainty in your shooting, use *freshly loaded* ammunition. I advise every hunter to fire his left-overs in practice, and buy new ammunition for field use.

TIME SPORTING PUPPIES

Many a puppy will just now be enjoying its first days of sunshine. Although I prefer puppies born in February or March, the fact that they happen to be born in another month is no real detriment. Of course, the earlier born puppies are the most "profitable" if you want to sell them, because it permits their early advancement to a point where they will do some hunting during the current season. Beagles, especially, are quite well grown and strongly developed and may be taken afield so the older and more experienced dogs can show them the ways thereof and the whys therefor.

With a hearty snap and healthy growl from the elder father or mother comes understanding that play days are over; it is time to go to school, for this matter of working for the master and his gun is now a serious family business for the merrie beagle. Pointers, setters, spaniels, retrievers or other sporting or hound dogs come in, of course, for their share of training.

Puppies should have all the sunshine they can get, as it is vitally essential that they enjoy the health and strength-giving rays of old man sol; likewise, shade should be made available for them as they want it and find need for it. However, be sure your puppies are kept free of drafts while in the kennels and do not let them become wet by a shower, as many a puppy is lost by pneumonia at this stage of the game for that very reason.

Coddling of puppies of any age is frowned upon, but they should have all the liberty possible. They should receive good, sensible care. One of the do-nots at this time is to avoid excessive handling by either children or grown-ups. Puppies are "so cute" and attractive that they are often mishandled and often injured.

If you have puppies that are still with the mother, feeding her a ten grain tablet of calcium gluconate daily is of value in producing teeth and bone. The puppies should be induced to start feeding at about two weeks of age and one of formulas I have found to be very good consists of:

- 1 can of evaporated milk and one can of water
- 1 teaspoonful of cod liver oil
- 1 teaspoonful of yeast and one of blue Karo syrup

I feed this ration three or four times a day until four weeks of age, at which time I add a half cup of granulated or mash type kennel food of good quality. As they become accustomed to it I continue to add more until it becomes a thick, moist, mush like mass. At five weeks, I take the mother away from the puppies during the day, putting her back with them at night, also omitting the evening feed of the milk formula and substituting with hamburger steak, raw or cooked, $\frac{1}{4}$ to 1 teacup for each pup, depending on its breed.

At six weeks I see that they get good fresh bones to chew on. By this time of course, unless the nights are cold, the mother is away from them entirely. At seven weeks, it is advisable to substitute a meat broth for the milk, continuing with yeast (or yeast foam), cod liver oil and kennel food. Adding from time to time table scraps, whole wheat bread and green vegetables to give variety, stimulating the appetite, thus producing well-boned and sturdy

YOUR DOG



It's Care—Health—Training

Edited by "DAVE" FISHER

A SERVICE TO GAME NEWS READERS

This department is conducted for the purpose of giving you the best service without prejudices, without selfishness and without partiality to any one breed. It has nothing to sell and is interested in only one thing—Your dog. It is conducted for the purpose of exchanging ideas and passing on to you helpful information on the care, health, breeding and training of your favorite dog or dogs. It asks your help and interest with no other end in view than to render benefit to you and other sporting dog owners in general.

If you have a question to be answered, or several of them, ASK ME! If you want a direct, personal reply, enclose a stamped and addressed envelope, and you'll get it—Zing! Just like that. If you don't need a hurry-up answer, watch the column next month.—D. F.

dogs that will be able to stand long, hard and grueling work when they are called on to do so.

After about four months are up the meat need no longer be ground, but may be fed in pieces about an inch square. I still continue with the milk, feeding two meat meals to one milk meal however. If fresh raw milk is not available, I have found the use of powdered buttermilk to be nearly as good, if not entirely so. Canned dog foods cannot be substituted for good fresh meat in the diet and in the purchasing of the kennel food, I advise buying only the better grades as they are the cheapest in the long run.

At six months it is advisable to feed only twice daily and to increase the amount of meat. In feeding table scraps, avoid entirely fish or chicken bones, also starchy foods such as potatoes. Starchy foods can be fed in reasonable amounts if your dog is getting plenty of regular exercise.

After the dog is a year old it is necessary to feed only once a day, except when he is working, in which case two or three meals are advisable. Plenty of green vegetables and meat are advised along with your kennel food or table scraps whichever you may be using.

A word here would not be amiss about worming, as the average person does not recognize the signs nor understand how properly to go about worming the animal. I would suggest worming at from 5 to 8 weeks old, depending on their condition and the necessity for it. This can be determined by condition of the eyes, twitching while sleeping, condition of stools, and generally they are a bit bloated after feeding lightly. Feed no greasy or oily foods 24 hours before worming. Do not feed at all the day they are to be wormed. In the evening, give a dose of milk of magnesia or epsom salts. Do not give castor or other oil. Half hour afterwards, give the worm remedy you are using, followed an hour later with a dose of salts or milk of magnesia. Worming can be carried to an extreme and cause damage to a puppy so it is always best to proceed with care. Let me repeat; worm only if necessary . . . most times it is absolutely not necessary until the puppy is about three months of age. Watch for the signs and play safe.

When your puppies are about three months of age, you will have decided as to which will likely grow into the "best looking" ones, or the ones you want to keep. It is not impossible, to pick the puppy that is going to be the best dog for the purpose intended, but it is darned improbable. I have seen snipy nosed pups that were discarded as unsuitable turn into the best dogs of the litter, while those with the seemingly better shaped or more attractive heads and noses turned into dogs that were no good at all.

It is very true, that the index to a dog's breed may be observed in the form of his head. Some people prefer small headed puppies rather than those with large heads—I prefer a medium head and nose myself but do like a broad skull at times, for this of a certainty denotes plenty of brain room and if the breeding is right, such selection will usually turn out right. Not always the longest legs win the race; if you are looking at legs for speed, it's a matter of how fast those legs are moved that counts for speed.

The fact that the puppy has "beautiful long ears," to those looking, we shall say, for a beagle, does not mean a thing. A dog does not hunt with his ears. It is absolutely necessary that he possess not (good looks, nor long ears, the former being very nice and desirable, the latter no merit at all), but that he possess a good nose, brains and sense, backed up with a body that means the ability to "take-it," or in other words, strength and stamina or staying power. A puppy of good breeding will have confidence in you, its master, and will give you it's all. You, in turn, should reciprocate and you will get a hundred times more enjoyment from your sport. Treat your dog or puppy as a pal, companion and friend . . . not just as a dog, something merely to be tolerated from one season to another. Enjoy your dog every day in the year.



PICTO

Several hundred female expect less deer last season. Year interest in hunting and fishing a man is wise he will encourage door recreations. More sport iaries. They take the work of the men and more than one a substantial club house with of the ladies auxiliary.



R I A L

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WOODCHUCK LETTER WINS SUPPORT

In an open letter in the May issue of *GAME NEWS* just released Honorable John M. Phillips, pioneer conservationist and former President of the Game Commission urged greater protection for the groundhogs because they dig holes and dens for rabbits, who are unable to make homes for themselves. Mr. Phillips claims "the rabbit is the foundation of the Pennsylvania game system but asserts that without the groundhog the rabbit, who cannot dig holes, would have no secure and comfortable frost-proof cellar in which to keep warm or escape from predators."

The groundhog, according to Mr. Phillips, digs many holes in a season, and not only rabbits, but ringneck pheasants, often seek cover in their dugouts. Mr. Phillips deplored the "sport" of slaughtering groundhogs with high-powered telescope-sighted rifles by persons who were interested in killing the animals only for target practice.

Mr. Phillips' plea in behalf of the "chuck," which he claims can live in much of the rough and rocky parts of Pennsylvania's forest lands without doing any damage, could not have been more timely in lieu of a bill now before the Legislature designed to give this valuable little animal full protection—a bill which is meeting with much favor on the part of serious-minded sportsmen.

Furthermore, Mr. Phillips' assertion on the merits of the groundhog are not without foundation as recent experiments made by the Research staff of the Game Commission have borne out. A three-week test made in the Commission's climoactometer recently with a pair of rabbits (one with, and one without a groundhog hole) at different temperatures, high, low and medium, resulted in the animal without shelter dying within a comparatively short time, whereas the one with the groundhog hole available not only survived but was in excellent condition when released at the end of the three-week period.

Both rabbits were the same size and weight when placed in different halves of the climoactometer; both were subject to the same conditions created within the device, namely, rain, sleet, high wind velocity, extreme low temperature, etc.; both were fed the same kind and amount

of food, but the groundhog hole proved the decisive factor. These tests also checked with two control animals at constant temperatures during the same period.

The Game Commission has full records for two winters on the actual temperatures in groundhog holes, and this field work likewise checks with experiments made in the climoactometer.

The little opposition against the protection of the groundhog apparently comes only from two sources; on the one hand, from those who wish only to slaughter the animals in the form



His Majesty the Woodchuck—builder of rabbit homes.

of target practice, and on the other hand, from farmers who do not understand that the law now gives them and will continue to give them the right to kill the animals at any time and in any manner when destroying personal property.

At the present time groundhogs may be killed up until September 15, 1939, on week days only, between the hours of 7 and 5 Eastern Standard Time. However, the Game Commission urges that hunters be sportsmen enough not to kill them between now and July 1 because they are breeding during that period.

game hunting roster, and killing deer with visible antlers in closed season.

These cases were handled by Field Division Supervisor Sherman, assisted by Supervisor Heffelfinger of Division "G," Game Protectors Logue, Reeder and Spencer, Deputy Game Protector DiRienzo, and ably aided by Fish Warden George Cross of Clinton County.

The Commission deplores the necessity for prosecutions, but if hunting parties insist upon violating the game laws in such a wholesale manner they must expect to suffer the consequences.

NOTES FROM THE FIELD

"On April 13 while planting trees in Refuge on Game Lands No. 83, I observed a Marsh Hawk swoop down and grab a male ringneck pheasant; however, the hawk must not have taken a firm hold of the pheasant as it worked itself out of the hawk's talons and flew for cover unharmed."—Peter J. Filkosky, Traveling Game Protector, Lancaster County.

"Rabbit Trapping Agent Andy Pochiber, of West Leechburg, caught a rabbit in one of his traps. Also in the trap was a large house cat which had the rabbit so badly mangled it had to be killed. . . .

"When snow was on the ground my wife would place feed out in the yards for the birds. One morning while I was eating breakfast a Sharp-shinned Hawk swooped down into the yard where 25 or 30 sparrows were feeding and very nicely took one of the birds along. All this right in the center of a community of 11,000 people. . . .

"A Cooper's Hawk killed 3 ringnecks, several quail, and a rabbit in the Truxall sportsmen's refuge before being captured."—Game Protector John S. Shuler, Armstrong County.

"On Saturday afternoon, April 29, while patrolling in the mountain sections of Southampton Twp., in Franklin and Cumberland Counties, I flushed a Red-tailed Hawk. Curious to know what Mr. Hawk was feeding upon, I investigated and saw that he was devouring a cottontail rabbit, and about three feet away lay a dead crow apparently killed also by the hawk."—George D. Bretz, Traveling Game Protector, Cumberland County.

Game Protector John M. Haverstick, of Lancaster County, received the following letter recently:

"This is to inform you that neither my husband nor I are interested in hatching Ringneck pheasant eggs under the Cooperative Farm-Game Agreement. We will need all our Bantam hens to hatch out the pheasant eggs that we're unlucky enough to mow into at haying-time. Last year we hit two nests, and if the number of hen pheasants on this farm is any indication we'll find a nest this year on every trip around the field.

"Last year we raised only three adult birds from sixteen chicks. That seems like an utter waste of material. The one cock raised still stays with the bantam hens, so we're hoping to see what the resulting cross-breeding will be."—Mrs. H. E. Roper, Kirkwood.

NOTE: Mr. and Mrs. Roper own a 122 acre farm on Farm-Game Project No. 30.

The Commission recently completed by field settlement, the biggest single game law case arising during the 1938 season. The case originated in Leidy Township, Clinton County, and involved ten (10) defendants, five from Allegheny County, two from Somerset County and one each from Cambria, Fayette and Clinton Counties. They paid penalties aggregating \$1550.00.

The members of the group were guilty of various violations, including individuals taking deer over the legal limit, killing deer in excess of the season party limit, concealing game illegally taken, failure to maintain proper big

CURRENT TOPICS

"While working on State Game Lands No. 10 last week I saw a Sharp-shinned Hawk strike a robin in mid-air. The robin died immediately. Apparently the hawk wasn't hungry, because it didn't stop to gather up the ill."—Deputy Game Protector George H. Burdick, Cameron County.

Game Protector W. C. Achey, Carbon County, reports observing a Marsh Hawk swoop down and kill a hen pheasant.

"Too many deer left on Game Lands 12 and 16. They are eating pine seedlings as fast as they are planted. In fact one WPA crew was planting banks pine and in looking behind them saw deer following and eating the seedlings as they were planted."—Refuge Keeper Walter Zellers, Bradford county.

When a wild bear started to tear a side out of the Mountain Crest Lodge near Stroudsburg the other day, the proprietors hurriedly called Game Protector Arthur N. Frantz to the scene. By that time, however, Bruin had disappeared. Protector Frantz said that the animal tore the boards off the side of the inn because he was balked in his attempt to catch either a chipmunk or a woodchuck that escaped his hungry clutches by ducking under the weather boarding.

One of the watchmen at the plant owned by Hon. Samuel C. Castner, Game Commissioner from Williamsport, kept a record of the game killed on the highway between that city and Cogan House, eight miles distance, during the period December 1, 1938 to March 25, 1939. Between Williamsport and Cogan Station—8 miles—62 rabbits; Cogan Station to Trout Run—5 miles—35 rabbits; Cogan House Township—10 miles—10 rabbits. He also saw one deer, nine grouse, seven dogs, five house cats, and eight skunks.

Two occupants of an auto were endangered near Kutztown when their machine nearly struck two buck deer, fighting in the center of the highway. The animals fled, apparently uninjured.

Agreements for Cooperative Farm-Game Projects aggregated 83,025 acres as of April 1. This includes three new projects located in Adams, Allegheny and Cumberland Counties, and additions to existing projects in Armstrong, Allegheny and Greene Counties. Sportsmen's organizations are taking an active part in working up projects in their counties. This is as it should be, for if the sportsmen want more open hunting territory and better shooting they certainly should be willing to take a very active part in developing and expanding the Cooperative Farm-Game Program.

CORRECTION

On Page 13 of the May issue we announced the resignation of Troy C. Burns and Vern A. Van Order. This announcement is an error. Although these officers submitted their resignations, the Commission did not accept them.

A large well constructed feeding shelter built by the Peltan brothers, members of the Charleroi Sportsmen's Association proved to be a haven not only for game, but humans as well. After a cold, snowy night recently, the brothers found that two hobos, apparently traveling the railroad close by, used the shelter for their sleeping quarters during the night. They hastened to display a sign "For Game Only."—R. D. Parlaman, Game Protector, Washington County.



Noticing wing marks on either side of some fox tracks, traveling Game Protector Sam Reed, Pine Grove Mills, followed and soon came upon the complete head and hide of a gray fox. To one side about 12 inches were wing marks of some large bird, and other signs to indicate the bird had only one foot free. Later Deputy Reed returned and placed a trap on a stump near the scene and next morning found he had caught a large Barred Owl. No other tracks of any kind were at all obvious on the fresh snow. —Div. Supervisor M. E. Sherman, St. Marys.

That the CCC is a recognized agency for the betterment of wildlife can be attributed to the wildlife benefits that have come from the CCC work for the Forest Service, the National Park Service, the Bureau of Fisheries, the Soil Conservation Service, the TVA, the Bureau of Agricultural Engineering, the Office of Indian Affairs, the Division of Grazing, the Bureau of Reclamation—and others. There are more than forty kinds of CCC activities that have had direct or indirect benefits for wildlife on the lands administered by these ten or more agencies. This work has been described just recently in a publication by the Civilian Conservation Corps, with the title "The CCC and Wildlife."

Henry P. Davis, well known sportsman and authority on field dogs, has resigned as Secretary and Business Manager of the American Wildlife Institute, a position he held since 1936, shortly after its organization. He helped to organize the Institute, which took over the work of the American Game Association late in 1935. C. M. Palmer, Jr., Assistant Secretary, has assumed Davis' duties as Acting Secretary. An active worker in wildlife restoration for many years, Palmer was associated with the American Game Association until the Institute took over that organization. As Assistant Secretary of the American Wildlife Institute, Palmer was each year responsible for arranging the program of the annual North American Wildlife Conference. Among his other duties was the task of editing *American Wildlife* the institute's magazine.

Persimmon wilt is spreading over the Southeastern States with a rapidity that U. S. Department of Agriculture workers term "explosive." This fungus disease, discovered and identified only two years ago, kills with great rapidity a native American tree that has high value. Fruit of the persimmon tree furnishes winter food for wildlife.

This country's most esteemed shade tree, the American elm, is now beset with another epidemic killer—a virus disease. Pathologists in the Federal Bureau of Plant Industry find it has killed thousands of elms in the last few years in the middle and lower Ohio Valley. First indications of the disease are a slight shriveling and brittleness of the leaf. This is accompanied by a rotting of the roots and the inner bark of the trunk. Within a few months the tree may be dead.

Trumpeter swans apparently are just about holding their own in a battle against extinction, says the U. S. Biological Survey. They are the largest North American wild fowl, weighing at least 25 pounds and having a wing-spread of 8 feet. This summer's count of 148 birds in the United States is 10 less than last year, but another census to be made shortly may reveal more birds. Several broods of cygnets, or young swans, hidden by dense vegetation may have been overlooked.

An inventory recently made by a uniform equipment company to determine the number of states that required their fish and game personnel to wear uniforms or regulation field clothing disclosed the fact that 20 states require this regulation; 8 make it optional; 4 contemplate making it obligatory and 16 do not require it.

Leo A. Luttringer, Jr., In Charge of Public Information, spoke before the Connecticut Federation of Sportsmen's Clubs recently on Pennsylvania's Predatory Animal, Farm-game and Educational programs.

CURRENT TOPICS



Posts are erected on State Game Lands to insure absolute protection for wildlife from motor traveling public.

THE Commission at its meeting April 12 approved the purchase of 29 tracts of land totalling 5,887.4 acres, distributed through 11 counties of the State. Purchase contracts have since been entered into and boundary line surveys of the various tracts will be made as quickly as possible. Titles also will be examined, abstracted and reviewed in the near future.

At the same meeting the Commission made counter offers for two other tracts containing 1,593 acres. Offers of 26 tracts totalling 6,590.5 acres were rejected by the Commission, and action on 6 others totalling 2,244.7 acres was postponed for one reason or another.

Following is a list of the tracts approved for purchase April 12:

County	Township	Offered By	Acreage
Bucks	Haycock	6 Persons	50.5
		Six small woodland tracts on Haycock Mountain. When title is secured, they will become part of State Game Lands No. 157, now containing 723.6 acres, with 272 acres additional under contract for purchase.	
Schuylkill	East Brunswick	Daniel W. Kleckner	93.0
		Farm and woodland. Adjoins State Game Lands No. 106, containing 1,706 acres. When title for this tract is secured it will become part of those lands.	
Schuylkill	Wayne	Chas. V. Strause Samuel Strause	112.0 404.0
		Timberland on north slope of the Blue Mountain. Adjoins State Game Lands No. 110, containing 5,924 acres, to which lands it is expected these tracts will become a part.	
Susquehanna	Great Bend	Alex O. Duane	125.0
		Pasture and woodland. Adjoins State Game Lands No. 35, containing 6,944 acres, of which this tract will become a part.	
Lackawanna	Clifton	John A. Frech Estate	1,913.0
		Timberland. Adjoins State Game Lands No. 135, now containing 1,139 acres. This tract will, if secured, become a part of those lands.	

Bradford	Wilmont and Terry	Mrs. Marian F. Lewis	694
		A woodland tract which includes about 94 acres at one time farmed. Good small game territory.	
Bradford	Terry	Weston Abrams	100.
		Farm and woodland. Adjoins State Game Lands No. 142, now containing 278 acres, of which this tract will become a part.	
Columbia	Beaver	Lloyd Schell	308.
		Brushland. Adjoins State Game Lands No. 58, containing 9,166 acres, of which this tract will become a part.	
Bedford	Monroe	Wm. R. May B. Scott Gordon	126. 130.
		Combination farm and woodland. Adjoins State Game Lands No. 49, now containing 3,314 acres, of which they will become a part.	
Bedford	Monroe	7 Persons	842.
		Seven contiguous combination farm and woodland tracts, comprising good small game territory.	
Bedford	Woodbury	John W. Miller	105.
		Timberland. Adjoins State Game Lands No. 73, now containing 14,977 acres, which extends for a distance of about 23 miles on Tussey Mountain.	
Huntingdon	Clay	Shannon C. Weyant	400.
		Brushland. Adjoins State Game Lands No. 121, now containing 444 acres, with 1,493 acres additional under contract for purchase.	
Crawford	Steuben	Mrs. Harrietta Altenburg	162.
		Woodland. Adjoins State Game Lands No. 122, now containing 797 acres to which this tract will be added.	
Warren	Pittsfield	Mike Wroblewski	100.
		Woodland. Adjoins State Game Lands No. 143, containing 4,509 acres, of which it will, when title is secured, become a part.	
Cambria	Summerhill	County Commissioners	122.
		Timberland. One-third undivided interest in a tract which is a part of State Game Lands No. 26, now containing 9,109 acres.	
Cambria	Reade	County Commissioners	100.
		Timberland. Adjoins State Game Lands No. 158 containing 1,514 acres, recently secured from the County Commissioners	
Total			5,887.4

Improved weather conditions and the assignment of another temporary title examiner has resulted in speeding up boundary line surveys and title abstracting and conveyancing of tracts which have been under contract for purchase for many months. The following tracts have been conveyed and settled for since those reported in the March, 1939, issue of the GAME NEWS, bringing the aggregate area of State Game Lands to 595,956 acres.

County	Township	Grantor	Acreage	State Game Lands Numbered
Bucks	Haycock	19 Persons	238.4	157
Erie	Conneaut	Frank Joiner	81.8	101
Cambria	Reade	County Commissioners	1,514.5	158
Columbia	Briar Creek	Calvin D. Royer	256.3	55
Susquehanna	Harmony	City National Bank of Susquehanna	541.9	70

CURRENT TOPICS

Archers in Wisconsin—147 of them—who checked the wild turkey in that state last year reported seeing 1,466 birds and of bagging 26. Two hundred and three archers observed 2,601 deer in eight southern counties of Wisconsin last season.

From Ohio comes word that the sportsmen of that State are celebrating the legislative victory which "takes conservation out of politics."

The measure provides that the Conservation Council shall have the sole authority to select the Conservation Commissioner and provides eight-year terms for council members. The new law places the employment of conservation personnel under the authority of the council and subject to the civil service laws.

The sportsmen of Ohio have labored for twenty years to obtain passage of this law but without success. Last year they organized and launched a State-wide program to obtain its passage. The vote in both the Senate and the House was overwhelmingly favorable to the bill, which was also favored by the farm organization.

Perry L. Green, president of the Ohio Farm Bureau, stated that the bureau agreed with the sportsmen that conservation should be removed from politics as much as possible. "This measure will encourage a longrange conservation program," he said, "and both sportsmen and farmers should benefit."

The head of the State Grange also endorsed the bill, stating that he had observed a greater degree of cooperation from sportsmen during the period in which they became organized.

"Observed 15 sea gulls on a farm about two miles from Susquehanna River on March 17 and 18. The birds were following behind a plough, apparently eating grubs.

On March 30 while patrolling near Falmouth I observed a rabbit feeding upon a cardboard carton. Upon investigating I found the animal had chewed a large portion of the box in which was some baking powder. Whether or not the animal was after the powder or some mineral in the glue that held the carton together is more than I can say.—Peter J. Filkosky, Traveling Game Protector, Lancaster County.

The largest migration of wild ducks and geese in five years headed toward their Canadian breeding grounds this spring, according to a summary of reports from state game officials and private observers in a nation-wide survey just completed by Ducks Unlimited, Inc., national organization of wildfowlers. The survey, covering the 25 most important species found in the United States the past fall and winter, brought in 3,746 reports of an increase of the waterfowl, as compared with 758 reports of a decrease.



Shipments totalling 7,700 live Hungarian Partridges made by the Gaybird Pheasant Farm of Great Missenden, England, to the State of Pennsylvania. They were consigned in three shipments in the SS "Manhattan", SS "Aquitania" and SS "Washington."



Squirrel boxes, feeding stations and feeding hoppers built by WPA for use on State Game Lands, Mt. Gretna, Lebanon county.

CURRENT TOPICS

SUMMARY OF ANNUAL BOUNTY PAYMENTS SINCE 1915

<i>June 1 to May 31</i>	<i>Wildcats</i>	<i>Gray Foxes</i>	<i>Red Foxes</i>	<i>Minks</i>	<i>Weasels</i>	<i>Goshawks</i>	<i>Great Horned Owls</i>	<i>G. H. Owl Fledglings</i>	<i>Amount</i>
*1915-1916	792	4,748	4,911	4,014	28,225	.....	.....	.....	\$ 56,309.0
1916-1917	432	3,758	3,360	6,022	44,631	.....	.....	.....	67,481.0
1917-1918	297	3,287	2,790	4,248	30,397	.....	.....	.....	48,581.0
1918-1919	459	4,446	4,351	5,549	31,943	.....	.....	.....	57,841.0
1919-1920	320	4,718	2,408	2,270	48,885	.....	.....	.....	113,810.0
1920-1921	291	3,068	3,044	4,058	53,382	.....	.....	.....	124,712.0
1921-1922	412	5,393	3,720	60	74,142	.....	.....	.....	134,322.5
1922-1923	351	4,530	2,991	.....	50,548	.....	.....	.....	93,720.5
1923-1924	617	7,730	4,961	1	44,488	.....	.....	.....	95,993.5
1924-1925	438	7,177	4,109	.....	22,583	.....	.....	.....	66,152.0
1925-1926	507	8,339	5,993	.....	37,353	.....	.....	.....	90,316.0
1926-1927	353	6,648	4,437	.....	37,868	.....	.....	.....	78,627.5
1927-1928	416	9,980	6,046	.....	63,610	.....	.....	.....	121,860.0
1928-1929	278	6,955	2,973	.....	50,335	.....	.....	.....	88,271.0
1929-1930	190	7,917	13	.....	84,370	76	.....	.....	119,294.0
1930-1931	183	6,458	.....	.....	55,381	28	.....	.....	84,098.0
1931-1932	191	6,567	.....	.....	45,984	46	.....	.....	75,347.5
1932-1933	211	9,392	.....	.....	78,656	64	.....	.....	119,709.0
1933-1934	181	9,337	.....	.....	88,578	68	.....	.....	128,981.0
1934-1935	155	9,487	.....	.....	73,514	172	.....	.....	114,647.0
1935-1936	97	8,408	.....	.....	77,697	701	.....	.....	116,289.0
1936-1937	131	9,790	.....	.....	80,843	1,080	.....	.....	127,368.0
1937-1938	3	8,919	.....	.....	29,200	144	675	76	54,657.5
1938-Apr. 1, 1939	.....	9,062	.....	.....	39,185	50	761	10	57,472.5
Totals	7,305	166,114	56,107	26,222	1,271,798	2,429	1,436	86	\$2,235,860.5

* April 15, 1915 to May 31, 1916.

RATES OF PAYMENT

Wildcats	\$ 6.00-1915	Weasels	\$ 1.00-1915
	8.00-1919		2.00-1919
	15.00-1923		1.50-1921
	Removed-1937		1.00-1923
			.50-1937
Gray Foxes	\$ 2.00-1915	Goshawks	\$ 5.00-1929 (Nov. 1-Apr. 30)
	4.00-1923		2.00-1937 (Nov. 1-May 31)
Red Foxes	\$ 2.00-1915	Great Horned Owls	\$ 2.00-1937 (Nov. 1-May 31)
	Removed-1929		
Minks	\$ 1.00-1915	Fledglings	\$ 1.00-1937 (Nov. 1-May 31)
	Removed-1921		

CURRENT TOPICS

Two Bradford County men enroute to their hunting camp recently to spend a week-end hunted 71 deer feeding in one group. They said the animals were in fine physical condition.

A cooperator on one of the Farm Game projects has written a letter giving some information on the project, and part of that letter is quoted below:

"We found out last hunting season that the safety Zone gave us protection from these state licensed hoodlums and armed bums around the buildings, but outside the Zone they are made whoopee with a big W. The first day there must have been between 20 and 30 Soldiers of the Pot here, and drove the pheasants from different angles to a soy bean patch of about an acre, with standing corn on both sides. There the cocks were just simply chopped up, down, and out, or just anyway you care to figure. The result was, neither my son or myself got one cock. Towards the end of the season I got two, and my son one, after several hours hunting every day for most of the season.

"My son said we might as well throw our guns away but I told him we might need them to kill crows and hawks so there would be some game for these fellows in '39."

According to the *Congressional Record* of the Senate, March 20, the Vice-President laid before that body a resolution adopted at Harrisburg, Pennsylvania, by the National Committee on Wildlife Legislation, favoring creation of a permanent standing committee on the conservation of wildlife resources. The resolution was referred to the Committee on Rules.



Fox Hunting is increasing in popularity in many parts of the State.



Milton Wert, Schuylkill Haven, with some of the foxes he took last season. The middle three are red foxes.

Various states have already made plans to use a portion of their Pittman-Robertson funds to further their wildlife programs. Virginia, for instance, plans to carry on an extensive survey of the wild turkey. Minnesota proposes to develop one of its large refuges and public shooting grounds. Nebraska will attempt a unique restoration program for ringneck pheasants which embodies a new method of acclimating the birds to the habitat in which they are to be liberated. Birds are to be restored only on lands under five-year lease to the state and such units must be at least 1200 acres in size. Farmers, 4-H Clubs and local sportsmen's clubs are cooperating. Mississippi is developing a wildlife habitat project designed to improve food and cover conditions for deer.

Pennsylvania is using most of her share of federal-aid funds (\$3.00 of federal money derived from the 10% tax on sporting arms and ammunition to every \$1.00 of State Game Fund money) to extend its game land holdings. A small portion of it is devoted to cooperative studies on fur-bearers and other research.

Owen J. Gromme, of the Milwaukee Public Museum, who long has been studying hawks and owls, cites the dire need for protecting these birds. Speaking of his own state Mr. Gromme says, "But because the state's regulations permit the shooting of a few species that most frequently prey on game and song birds—all species are slaughtered.

"Meanwhile some foreign nations have requested the United States to capture and ship to them the very species of hawks and owls that are being ruthlessly killed off here. Those foreign countries have greater plagues of mice and rats than we have, because their natural balances are even more greatly upset.

"They now are learning that they must restore some of the predators to prevent increasingly serious damage by large insects and rodents.

"Wisconsin might well close the season on all hawks and owls, taking its chances with the bad ones for the sake of the good ones."

How Do Crows Carry Eggs?—On May 2, 1938, while working on the E. H. Fabrice Wildlife Demonstration Area in southeastern Wisconsin, it was my good fortune to see a Crow carrying an egg which I judged to be that of a semi-wild Mallard. The Crow had first pierced the egg with both mandibles closed when it discovered my presence and jumped back from the egg. It immediately returned and placed the upper mandible into the opening made in the egg, and then by lowering its head, scooped up the egg. It flew apparently supporting the egg on the lower mandible and keeping it there by means of pressure from the upper mandible. After flying a distance of 100 yards the Crow came down in an opening in the woods. I ran after it hoping to get the egg, but it took off again, repeating a second time the operation of placing the upper mandible into the opening in the egg and rolling the egg onto the lower mandible by a scooping movement of the head. This time the Crow flew far into the woods and I lost track of it. I should greatly appreciate correspondence from any one of the readers who have witnessed Crows carrying eggs or who know of any references on this subject in the literature.—Douglas E. Wade, Pennsylvania Game Commission.—Reprinted from the *Wilson Bulletin*.

A doe deer joined the Easter Parade in Ambridge, Pa., but suffered a typical hunting season death after nearly wrecking a market. First seen at Sixth and Merchant Streets, the animal went briskly down the street into the 400 block where she was struck by the auto of Jack Feick and suffered a broken front leg. The deer then leaped through a plate glass window into the Star Market and began floundering around, upsetting counters and knocking goods down. Officer William Davis killed it with four shots.



NEW CLUBS

The Goodwill Sportsmen's Association, DuBois, Pa., John J. Mitravich, DuBois, Secretary.

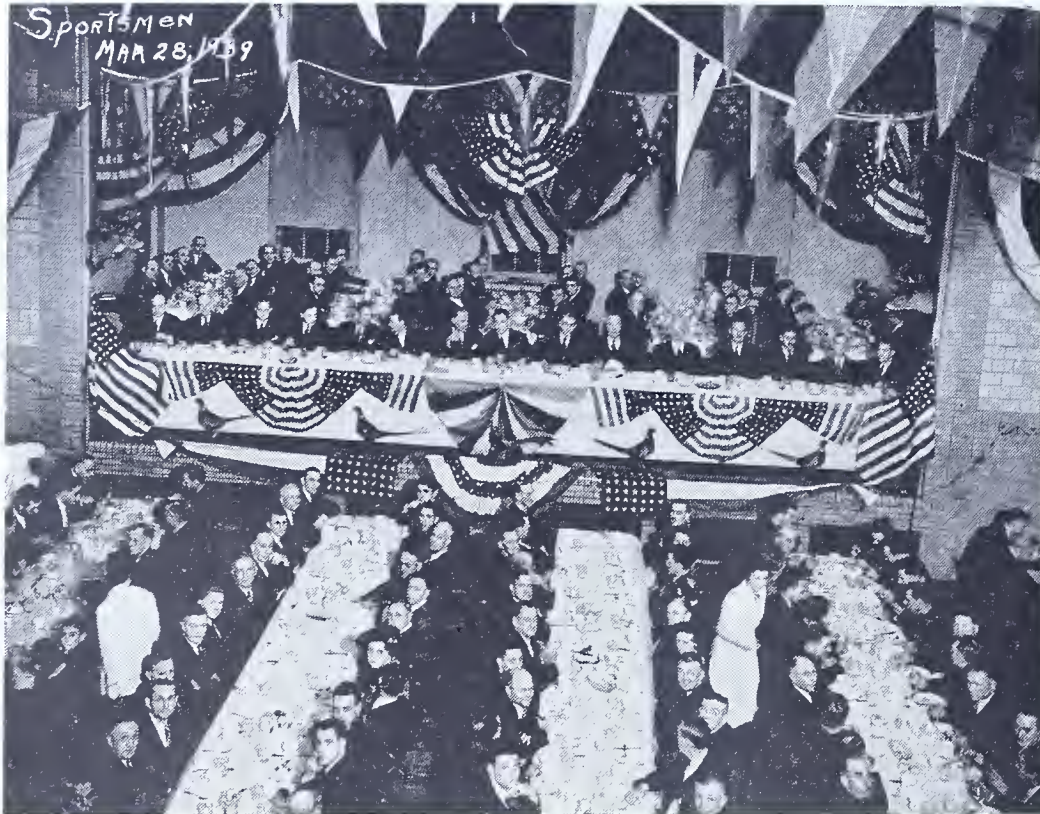
Shippensburg Fish and Game Association, Shippensburg, Pa., E. F. Shank, Secretary.

"Uncle Ned R", owned by Alvin Busch, of Williamsport, Pa., was regarded as the outstanding entrant in the Irish Setter Club of America's field trials held at Clinton, N. J., on April 24, following his blue ribbon performances in two events. Uncle Ned R. captured the open stake and the amateur all-age event.

Over 150 members attended the Union County Game, Fish and Forestry Protective Association on April 5. Speakers included Hon. Samuel C. Castner, Member of the Game Commission; Dalton Bell, of Williamsport, former President of the Lycoming County Game and Fish Association; John B. Ross, Division Game Supervisor; and C. R. Buller, Chief Fish Culturist, of the Fish Commission.

Nearly two hundred attended the First Annual Banquet of the Warren County Sportsmen's Association on April 17. Representatives of the following clubs were introduced after a delicious dinner by Toastmaster Herbert D. Harris: Bradford Penn, Gerald Kingsley; Brokenstraw Fish and Game Club, George J. Black; Corydon Rod and Gun Club, George J. Black; Cornplanter Gun Club, Paul Yagge; Glade Athletic Club, Wilson Baldensperger; Garland Alibis, A. H. Kane; Isaac Walton League, Elzie Wright; Irvine Rod and Gun Club, Sheridan Brown; Kalbfus Rod and Gun Club, Roy French; Pine Grove Sportsmen's Association, C. R. Jones; Sheffield Rod and Gun Club, A. K. Daniels; Sugar Grove Rod and Gun Club, R. R. Reynolds; Tidioute Bucktails, Barney Nicholson; Warren Rifle Club, Harry Schmidt; Warren County Field Trial Club, Clifford Johnson.

Guests included Lawrence Linder, Game Protector; Mr. Sterritt, President of the Warren County Council of Sportsmen; Ross Bailey, Fish Warden; Hayes T. Englert, Division Game Supervisor; Game Protectors Carl Benson, Rodney Schmid, and John Hopkins, Mr. McKain of the Forestry Department; Mr. Houpt; and Freeman Peterson, Warren County Representative to the State Federation of Sportsmen's Clubs.



Part of the 685 sportsmen who attended the Annual Banquet of the Consolidated Sportsmen of Lycoming county. The Lycoming group is carrying on a well rounded out game and fish conservation program.

H. L. McClurg, Secretary of the Greenville Chapter of the Mercer County Sportsmen, reports that one of the members of his association, Mr. E. E. Logue, of Greenville, counted 43 dead deer lying along the banks of Straights Creek in the northeastern corner of Elk County when he visited his camp in that area over the weekend of April 15. The local refuge keeper and some of the natives told Mr. Logue they had found and buried 55 additional deer during the previous two days. It is their opinion that the animals died from starvation and pneumonia.

At a recent meeting the Franklin Rod and Gun Club decided to propagate ringneck pheasants and has already started building a breeding pen 50 x 48 feet in conformity with Game Commission regulations. The club will also undertake an extensive stream improvement program. It recently entered negotiations for the purchase of a camp site near Karthus, Clearfield County, in the heart of the deer country.

A group of 175 sportsmen attended the annual Fish Fry sponsored by the Bellefonte Sportsmen's Association on April 12. A number of feminine anglers also were present.

The Beaver County Junior Sportsmen's Association at Ellwood City, recently started a vermin contest. The purpose of the club is to control, not to exterminate predatory birds and animals in its community.

Word has reached us that the North Butler County Hunting and Fishing Club expects to undertake a farm-game project this summer. At present the association is engaged in a stream improvement project on Bear and Silver Creeks.

The Berks County Chapter of the Izaak Walton League is building a pheasant rearing pen on the prison farm game refuge in Burn Township.

The Tamaqua Rod & Gun Club held its First Annual 16 yard Club Championship Regulation Trap Shoot April 22, Stanley Graver, Lehigh-ton, emerging as champion. The other members who compose the trap team for the year are Shorty Carlson, Billy Schad, Franc Ulrich, and Bob Reinhart, all of Tamaqua. The Second Annual Club Championship Skeet Shoot was held on May 28.

WITH THE CLUBS

The planting of 4,000 seedlings on a reforestation project sponsored by the Pioneer Fish and Game Association, of Allentown, was undertaken by a score of boys, members of the Conservation club of the Central Junior High School, as the third annual undertaking of the club. The project was supervised by G. Dewey Fenstermacher, a member of the faculty of the Central Junior High School.

Over 650 attended the annual banquet of the Canton Rod and Gun Club, April 18, at which the principal speaker was Victor Coty, Watertown, N. Y., nationally prominent game and fish authority. The Game Committee of the club did a splendid job last year, releasing many pheasants and rabbits, and stocking the local waters with hundreds of fish. It now has two game sanctuaries in operation. The banquet was concluded with the awarding of special prizes to those members catching the largest fish of different species, and the awarding of over 200 door prizes contributed by Canton business men.

The Tidioute Bucktail Club promoted a vermin contest starting April 1. It will end August 31. The club expects to use the point system. Birds, animals or reptiles included in the contest are: Watersnake, rattlesnake, blacksnake, blue jay, kingfisher, crow, Goshawk, Sharp-shinned Hawk, Cooper's hawk, Great-Horned owl, waterdog, snapping turtle, stray cat, weasel, gray fox, red fox, red squirrel, chipmunk, and porcupine. The association also allows ten points for new members, providing they are brought in "alive."

The Columbia Fish and Game Association plans to establish several game refuges in that section.



Hunter and hunted. Splendid pointer owned by M. G. Shaffner, Harrisburg, with a bag of 8 cocks and 5 rabbits killed by his party of 4 hunters first day last season in 45 minutes.



John S. Wunderly, East Brady, with 115 lb. doe killed last season with some well placed shots at 40 yards. He also has some crows, 1 squirrel and 2 rabbits to his credit. Good going archer.

Mr. Robert W. Herr, President of the Southern Lancaster County Farmer-Sportsmen's Association, reports that a group of over five hundred persons turned out for the regular monthly meeting, held in the theatre at Quarryville, April 19, to receive the latest reports of the progress of the club's farm-game activities in that section. The set-up is modeled after the regular Farm-Game Projects which the Commission has in operation in the southeastern and southwestern sections of the State.

The first public meeting of the Lackawanna County Rabbit Club was held Friday, April 14, and the following officers elected: President, George Novack; Vice-President, Edwin Chase; Recording Secretary, Elwood Costlestin; Secretary, Elmer Millruger; and Treasurer, William Ordmung. The organization is going to make a special effort to open up some of the posted lands in that county.

Valley Township District Sportsmen: Secretary, Raymond L. Smith, RD No. 2, Kittanning, Pa.—new club.

Over 300 sportsmen attended the annual banquet of the Westmoreland County Sportsmen's Association recently at Greensburg. The principle speakers were President Judge Robert R. Lewis, Potter County, and Dr. Harold F. Post, Pastor of the Greensburg First Presbyterian Church. Irwin G. Moyer, of Greensburg, President of the Association acted as toastmaster. The guests included Bill McKechnie, of Wilkinsburg, Manager of the Cincinnati Reds, of the National League; W. L. "Uncle Bert" Wright, Retired Division Game Supervisor, who pronounced the invocation; Rollin Heffelfinger of Irwin, present Division Game Supervisor; Raymond McKissick, former Game Protector of the County, now in Indiana County; Robert D. Reed, of Latrobe, present Protector; A. W. Rossiter, of the Lands Division of the Game Commission; W. L. Treager, Westmoreland County Farm Agent; and Fish Warden Samuel Henderson, of Greensburg.

"At an outing of the Bucktail Association of Clarion County recently the Association had with other "Eats", 25 crows on the menu which were eaten and enjoyed by the ladies and gentlemen present. In 1938, at a like outing, 80 crows were served and not a single crow, crow remained after the dinner. Now the Bucktails are all set for another round.

Here is the recipe by which the Crows were prepared:

"Baked or Fried Crow."

Prepare the birds for cooking. Split down the back. Parboil birds in acidulated water. (1 tablespoonful vinegar to 1 quart of hot water). Drain. Add fresh hot water to which salt and sliced onion have been added and cook slowly until tender, or almost tender. Remove from the stock, brush with melted butter, dredge with flour and surround with trimming of salt pork or bacon. Bake in a moderate oven until tender basting every 10 minutes. The stewed crow may be dredged with flour and browned in a skillet."

A chicken in its diet is far more filthy than a Crow yet we invite the Preacher to our chicken dinners. The principal diet of a crow is vegetable. Dead carcasses are limited these days since dead horses and other dead animals are gathered up and made into profitable products. Why allow our ancient prejudices to keep us from so delectable a morsel as Baked or Fried Crow?—M. M. Kaufman, 2nd V. P. Bucktails.

The Monocacy Field and Stream Association trapped many rabbits last winter within the city limits of Bethlehem and released them in open hunting territory in the rural sections. At a recent meeting 38 prizes were awarded to the winners of the fishing contest. Prizes included fly rods to the first prize winners and fly lines and casting lines to the runners up.



Boys from Conservation Club, Portage Public Schools, ready for a game feeding trip last winter. The club was sponsored by Robert W. Plummer.

WITH THE CLUBS



Photo courtesy The Washington (Pa.) Observer

A five foot Blacksnake caught in the act of swallowing a full grown gray squirrel by Fred Powell, Vasco Margoni, and H. S. Riggle, all of Washington, Pa., while they were hunting groundhogs last year. Still alive and with the squirrel in its mouth the snake was taken to the editorial rooms of The Observer.

SHAMOKIN VALLEY FIELD TRIAL ASSO. HOLDS FIRST EVENT

The newly organized Shamokin Valley Field Trial Association, held its first event, an Amateur Shooting Dog Stakes, on Sunday, March 19, 1939, which proved a huge success. Although the mercury registered 14 above zero at the cast of the first brace, the largest crowd ever to attend a shooting or outdoor sports event in Northumberland County registered interest through their attendance.

Forty pheasants were liberated for the blue-blooded thoroughbreds of the field, who pointed their sensitive noses into the frigid air of the Shamokin Valley Gun and Country Club, Elysburg, on whose grounds the trial was held.

Game Protectors and Deputies from Northumberland and adjoining counties, were present and extended congratulations to the entire association for the efficient manner in which this event was handled.

Both Judges, Mr. Sam Shade, Mooresburg, Pa., and Mr. Murray Laubach, Berwick, Pa., found little to choose between the entries since diligent hunters were entered from Shamokin, Sunbury, Berwick, Bloomsburg, Jersey-Shore, Pillow, Muncy, Williamsport, Danville, Lewisburg, Hyner and Elysburg.

This trial together with past events should prove to the bird dog lover that English Setters are apparently staging a strong comeback.

All Braces and the performance of each dog was announced regularly through the medium of sound equipment located at a point which allowed its operator to view all actions over the entire course.

First prize was carried away by John Ryan, Shamokin, whose beautiful English Setter "Jack's Pal," cast off in the Seventh Brace with a beautiful start. Obeying all commands he was successful in having two finds and proved very steady to both flush and shot.

Second prize went to O. T. Hahn, Bloomsburg, who handled "Nellie" another English

Setter perfectly when she was cast off in the Sixth Brace.

Third berth was awarded to Harold Lunger, Bloomsburg, who proved that his "Mary's Patsy Lou," another Black, White and Tan English Setter was no slouch. Lou made her find very close to the spectators and became a little unnerved at the crowd, breaking slightly. This dog showed every evidence of being a very good hunter.

The Laurels for fourth place were carried off by J. H. (Frenchy) Velott, Williamsport, Pa., whose black and white setter, "Beaut," was handled in prime fashion, quartering nicely. She made two finds but proved a little unsteady to flush and shot. The general opinion of those interested was that the gallery and other interference made this dog work under trying conditions.

Keen interest was shown by the spectators when the young orange and white English Setter, entered in this trial was cast out in the twelfth Brace. Although only a puppy of several months "Tom's Freckled Toby," owned and handled by Floyd E. Shawda, Shamokin, proved that even a young dog can be trained to both hunt and use his nose with the required addition of bird sense. After hunting his best during the entire Brace Toby was successful in making a find during the last one and one-half minutes, but being very young was not steady to flush and shot.

The following men of Shamokin are the officers of this Association: President, John J. Ryan, Jr.; Vice-Presidents, Frank "Princy" Miller and Hubert Steward; Treasurer, Joseph Vad; Secretary, Floyd E. Shawda, Trustees include Edwin Smith, Lee Eisenhart, George Crone, James Harder, Blair Snyder and Eugene Steck.

The Shamokin Valley Field Trial Association, promise to sponsor future events this Fall and each one will be more elaborately planned.—Floyd E. Shawda, Secretary.

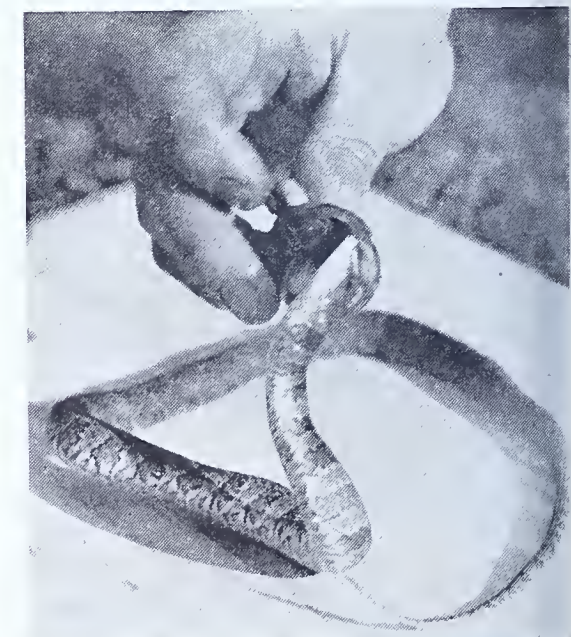
The Tri-County Fish and Game Association, composed of sportsmen from Lower Northumberland, Upper Dauphin and Western Schuylkill Counties invite you to its four-day sportsmen's carnival at Pillow, June 14, 15, 16 and 17. Everybody is welcome. If you have never been to a real sportsmen's carnival, don't miss this opportunity. You will be going right into a typical Pennsylvania Dutch community where hospitality and generosity cannot be surpassed.

The Tri-County group recently erected two holding pens with a capacity for handling 2,000 six-week old pheasant chicks and enough individual pens for handling 50 quail chicks. The members built the large rearing pens, and the boys in the Vocational Schools at Dalmatia and Herndon made the smaller units. The club has also been active in planting eroded hillsides to pine trees and during the past winter purchased 1,104 cottontail rabbits from its own treasury. The membership of the Tri-County League now numbers over 1,600.

The Parkinson Ferry Rod and Gun Club held its annual Trophy Show and Wild Life Exhibit recently.

The Montgomery County Federation of Sportsmen's Clubs submitted an interesting report recently on its activities. The Federation now has 72,650 trees of eleven varieties in its nursery; removed 41,000 fish from its rearing ponds; planted 13,750 willow cuttings and raised and released 505 pheasants.

Charles R. Alexander, a director of the Coraopolis District Sportsmen's Association writes that he raised 127 ringneck pheasants out of 200 day-old chicks to 12 weeks of age last year—a fine record.



Snail killing Milk Snake. The snail was fast over 24 hrs. after found by Wm. C. Wise of Quentin, Lebanon county. By that time the snake had died. The snail was killed in alcohol.

WITH THE CLUBS

The Bucks-Montgomery Counties Coon Hunters Club, held its Third Semi-Annual Field Trial, Saturday, April 22, 1939 at the Eastern State Penitentiary Grounds, Graterord, Pa. It had the largest attendance of any previous trial, with entries from New Jersey, Ohio, Maryland, and Delaware. Sixty-three dogs were entered.

The results are as follows.

First Heat: First tree and second line, won by Drive, owned by Beher and DeLough, Madison, N. J.

First line, by Ranger owned Bob. Hoffert, Hellertown, Pa.

Second tree, by Range Rider owned by M. Tyler, Avenel, N. J.

Second Heat: First tree and first line, won by Bones, owned by Beher and DeLough, Madison, N. J.

Second tree, by Jumping Joe, owned by Stuart Planck, Columbus, O.

Second line, by Rover, owned by Lloyd Saunders, Barren Hill, Pa.

Third Heat: First tree and first line, by Jumping Jack, owned by Stuart Planck, Columbus, O.

Second tree, by Bummer, owned by H. C. Yoder, Downingtown, Pa.

Second line, by Buck, owned by H. Massey, Birdsboro, Pa.

Fourth Heat: First tree and line, by Red Arrow, owned by Bock and Kickline, Hellertown, Pa.

Second tree and line, by Trotter, owned by Beher and DeLough, Madison, N. J.

Fifth Heat: First tree, won by Rye High Ball, owned by Walls and Reynolds, Millington, Md.

First line, O Henry, owned by Beher and DeLough, Madison, N. J.

Second tree and line, by The Turk, owned by Bock and Kickline, Hellertown, Pa.

Sixth Heat: First tree and line, by Little Jack, owned by Schriener and Boyce, New Brunswick, N. J.

Second line, by Cricket owned by Beher and DeLough, Madison, N. J. No second tree dog.

Seventh Heat: First tree and line, won by Rowdy, owned by Beher and DeLough, Madison, N. J.

Second line by Jennie, owned by H. Kraber, Fleetwood, Pa.

No second tree dog.

Eighth Heat: First tree won by Buck, owned by Bock and Kickline, Hellertown, Pa.

First line and second tree, by Lead, owned by Walls and Reynolds, Millington, Md.

Second line by Dan, owned by M. Tyler, Avenel, N. J.

Ninth Heat: First tree and second line, by Bobbie, owned by Walls and Reynolds, Millington, Md.

First line by George, owned by Beher and DeLough, Madison, N. J.

Second tree, by Doc Lou, owned by Walls and Reynolds, Millington, Md.

Final Line: Was won by Lead, owned by Walls and Reynolds, Millington, Md.

Final Tree: Was won by Buck, owned by Bock and Kickline, Hellertown, Pa.



V. K. Dayhoff, York, Pa., left, veteran Coon hunter with fine catch.

William B. Yeakel, Coopersburg, Pa., a co-operator on Farm Game Project No. 56, writes: "We like the GAME NEWS very much. I wish you would publish, over my name, that there is no such a thing as 'Steel jacketed bullet'. At least not in hunting rifles. You see, I am a mechanic, and I know."

The Lititz Sportsmen's Association numbers many farmers among its membership. During the past hunting season the association established safety zones on a lot of farms, thus opening about 6,000 acres of land heretofore posted in that section of Lancaster County. Each safety zone was profusely posted with signs furnished by the organization.

The North Penn Fish, Game and Forestry Association of Sellersville recently observed its Fifth Anniversary with a turkey banquet, attended by approximately 250 sportsmen. The Sellersville group has been extremely active and has grown from 12 members five years ago to approximately 400 today. Speakers of the evening included Mr. Charles Rowe, President of the Bucks County Federation, which now includes 21 clubs with a membership of over 5000; Mr. Webster Achey, noted Attorney from Bucks County; Joseph Mellon, representative of the Fish Commission; and George Zendt, traveler and lecturer from Souderton. Other guests included Harry Rickert, Bucks County Game Protector; Ambrose Gerhart, Montgomery County Protector; Warren Fretz, Supervisor of Game Projects in Bucks and Montgomery Counties, and Harry Cole, Norristown, State Fish Warden. Mr. A. S. Hildebeitel was Toastmaster.

Five years ago the rabbit-hunting in my neighborhood looked to me like a thing of the past. The old-timers claimed that the scarcity was due to a "cycle" so we all waited anxiously for it to end. At the end of this period they predicted good rabbit hunting for two or three years.

But it so happened that the two years after the cycle was supposed to have ended there was no improvement in our hunting conditions, and a large number of the hunters' dogs had been either sold or given away.

However, there were a few of us who were not entirely sold on the cycle theory, so for three months we went out every Sunday and cut brush and built shelters.

A breeding season passed by our watchful eye. We were happy for our work was beginning to show results. That hunting season we did not kill any rabbits.

One more year of winter feeding and another breeding season brought about a remarkable change. Rabbits were all around us once more. The guns have been booming like Fourth of July firecrackers for the past three seasons.

With this increase of rabbits, we have also had an increase in hunters, but thanks to the many of them that are "dang" poor shots and those who are good shots but good sports enough to leave us a good supply of breeding stock, we will be able to kill our limit next fall with a bow and arrow.

Those of you who still believe that every time the rabbits are scarce in your neighborhood, a cycle has hit them again, just remember my experience.—Gottlieb J. Kuhn, Deputy Game Protector, Lackawaxen, Pa.

KINGS FOR A DAY

(Continued from Page 11)

combination was too much for the Judge. After a period of Spartan restraint, he finally blurted:

"John, how many blankets have we got on?"

"About seven or eight," John muttered drowsily. "And you'll be thankful for them in a couple hours. Shut up and go to sleep."

Silenced for the moment, the Judge suffered and fidgeted. Perspiration dampened his woolen underwear, causing him to itch. The heat increased. Profound discomfort compelled him to venture again: "John, don't you think we'd be better off if we'd shed a few blankets. In the first place, the cabin was overheated when we went to bed. In the second place, that heating stove is roaring out a pile of warmth. Thirdly, you big walrus, you're a young furnace yourself. Fourthly, we've too many . . ."

"Yeh, I know. Too many blankets!" grunted John disgustedly. "Sounds like you're charging a jury. Never mind the fifthly, sixthly, seventhly, and the rest. Kick that dog-gone pooch off our bunk and the temperature'll go down. She's probably got fleas anyway which'll keep you busier than a one-armed paper hanger when they start working on this mixture of blankets and woolen underwear. If I take off some blankets, you'll be shivering by morning and bothering me again. I'm a tired man. You'll be looking for some of that heat before long. Let me alone so I can get a bit of shut-eye."

The Judge pondered. His plea for relief having fallen on stoney ground, he decided to fend for himself. He commanded Lady to dismount from the bunk. Being perfectly satisfied with the situation, she thumped a responsive tail but remained in status quo. Lady ignored the Judge's calm but insistent orders. Exasperated, warm under the collar and otherwise, he seized the dog by the scruff of the neck and heaved her out on the floor. Irish Setters being notoriously stubborn, Lady bided her time for a few minutes, then laid a paw tentatively upon the bunk and, sensing no resulting bodily movement on the part of her master, gently edged herself into her former position between the two men. Immediately, another eviction occurred. With determination, man and dog repeated this performance several times. At last, apparently convinced that she was an unwelcome bed-fellow, Lady curled up on the floor at the foot of the bunk.

The Judge now gave attention to other matters. His exertion in his conflict with the dog, the torrid weight of blankets, and the body heat of his rotund companion had turned the bunk into a veritable Turkish bath. The soul-searing snores of John did not administer balm to the Judge's ruffled spirit. Flinging aside several blankets, the Judge snaked his body to the edge of the bunk, putting all possible distance between him and that human radiator, John. In spite of the knotty pillow fashioned with his hunting coat, the Judge drifted into slumber, more from exhaustion than drowsiness, faintly noting that Lady had the last word by cautiously resuming her former place in the middle of the bunk. Toward morning, he awoke shivering, drew the offending blankets about him, snuggled up to John, and, thankful for the warm dog, he made no further protest and slept again.

Awakening to the tempting odor of buckwheat cakes and sausage and the drone of voices, the Judge heard John chuckling as he recounted to Charlie the jitterbug antics of the Judge during the night. Throwing back the blankets, shoving his feet into shoes and scurrying to the cookstove, the Judge shook and trembled as he lied:

"Heard every word you said. Never mind, my turn's coming! Anyway, I did have a grand night's sleep after I got going and I'm hungry as a bear!"

"You're Okay, Judge, and a good camper," John said. "But, dog-gone it, I sure had to laugh last night. Your judicial calm and poise took a mean licking. Boy, were you ever seething and stewing!"

Unconsciously, perhaps, the Judge, John, and Charlie were living through one of life's rarest moments, the first hour of the morning in a hunting camp. From the warmth of blankets, they had emerged to shiver in the frigid atmosphere of the cabin. Hurriedly touching match to shavings, slivers, and kindling, they welcomed the life-preserving heat and sniffed rapturously the odor of burning wood, pungent, undefiled, and cleansing. The coffee pot began to boil. Soon, each sipped and then quaffed a steaming cup of fragrant java, warming the inner man, a bracing potion in the chilled morning air.

Thus reinforced, one by one, they strode out on the porch and down to the stream bordered on its edges by ice. They swelled their lungs with the piercing keen dawn-air and splashed their hands and faces

in the icy purity of mountain water. The morning star still shone. The eastern sky softened from black night toward morning gray.

"Let's eat, Judge, and then you and I will go down in the hollow and do some still hunting while we're waiting for Charlie to straighten things up and join us."

The three men busied themselves eating the traditional hunter's breakfast, cakes, fried eggs, sausage, and coffee. After breakfast, John and Judge pulled on their boots, tested whether their woolen socks were bunched in uncomfortable balls under their feet and, being satisfied on that score, got into their sweaters and jackets and headed for the hollow where the trail crossed Birch Run, telling Charlie they would wait for him there.

By the time they arrived at Birch Run, day had definitely dawned although naturally the murky hollows surrendered more reluctantly and slowly to the new day than the ridges first kissed by the morning sun. John and the Judge seated themselves comfortably on a log in the short-lived but lingering gloom of the hollow and proceeded to enjoy an early morning smoke. Suddenly, the Judge grasped John's arm and whispered excitedly:

"Hist, John, look to your left! There's a couple grouse slipping through the trees. There's a third one. By Jove, there's a fourth one flying into that large oak tree. Right by that patch of leaves."

"I see that one on the oak, Judge," John exclaimed softly. "I'll take him. You cover one of the others and tell me when you are ready."

Both men carefully released the safeties on their guns and drew a bead on the respective birds. Although the half-light of the hollow combined with the thick brush obscured their vision, they were sure they had the two birds cornered.

"Fire," barked the Judge, pulling his trigger. Both guns exploded almost simultaneously. Both men started running toward the birds. Nothing fell. Wings whirled softly as four ghostlike shapes slipped off the trees and dodged deeper into the timber. The Judge and John shot again vainly after them. The two men looked at each other ruefully and with astonishment. Just then, the Judge's red dog, Lady, dashed madly up to them as they heard Charlie's voice:

"What the tarnation going on down there. Sounds like 'No Man's Land.' What d'you shoot?"

The two men were silent as they reloaded and watched Charlie come down the slope. Charlie looked at them for a minute, then guessed the situation and laughed: "Suppose you were just practicing, shooting target, eh?"

Ignoring Charlie studiously, John said to the Judge: "And the worst of it is that we can't blame your dog for flushing 'em because she came from camp with Charlie. I would have sworn that bird was in that clump of leaves. There's no use talking. A grouse is the smartest bird that flies. They skidded into those trees and must of gotten behind a limb."

"Had that bird practically in the pot cooking," mourned the Judge. "That sure was a great moment though! What monkeys those monarchs of the upland woods made out of us!"

As they moved on down the hollow, the Judge ruminated: "Sort of serves us right. Trying to pot hunt grouse. They're hard birds to fool. Come to think of it, the actions of those birds confirms a theory I have on grouse. They're full of tricks. That's why they've never been shot out. Unless a fellow studies them, he'll never get many grouse. Now, from my experience, you'll generally find grouse in hollows like this and ravines in the early morning hours. They probably roost nearby where they are protected from the wind and storms. Then they fly into the low places for breakfast. It stands to reason that berry bushes and the like will be thicker and alive in the sheltered lowlands and not froze out. Whereas, we all know that grapevines and other feed on the ridges is scarce. That hard winter two years ago killed most of it."

"Now, about ten o'clock in the morning," the Judge continued, "after getting a fair to middling breakfast, grouse start working up the slopes toward the top. Do a little dusting, sun themselves perhaps, and pick up a bit of food here and there roaming around. About three o'clock in the afternoon, they start working down into the hollows for supper and to roost. Sounds simple and logical, too, doesn't it? But, I tramped many a weary mile before I fell wise by watching 'em and thinking. After all, there's logic and reason in the woods as well as the courtroom."

KINGS FOR A DAY

"There he goes," John smiled. "I knew he couldn't stay away from the law for long. Was wondering though where he would break out first and I'll be blessed if he isn't using it to cover up that easy pot shot he missed. Now, don't bridle up, Judge. I'm only kidding. In fact, there seems to be sense in what you say. Hadn't thought of it before."

"Of course, you hadn't thought of it," the Judge said a bit truculently and seizing the opportunity to throw in his annual dig. "Lack of thinking on your part is why I have to shoot some birds for you two, year after year, so you can take 'em home and brag to your families and friends. Some day I hope you'll listen to me. Then, you'll get somewhere maybe if you aren't too old by that time. Going back to the habits of grouse, you know mighty well that many a man has hunted for grouse on top of the ridges and high up on the slopes in the first hours of the day. Being unsuccessful for the reasons stated, he'll thrash and tramp around the ravines and hollows during the midday. Not finding many birds, he'll hoof it up onto the ridges toward evening and then go home empty-handed or nearly so, swearing by all that's good and holy that there aren't any birds to speak of in that territory. As a matter of fact, he's been hunting them where they aren't. He doesn't know their habits. Of course, coming down into a hollow toward midday, he may run into a grouse working its way up the slope and flush it or vice versa toward evening but that's just an accident and"

"Look out, Judge," John interrupted, bringing up his gun. "Lady's on point to your right."

The Judge stopped and wheeled, ready to shoot, steadying the dog with his voice. John came up even with him on the left. At that moment, the grouse flushed with thundering wings. John shot immediately which was too quick. The Judge followed the bird for an instant until it started to level off, then pressed the trigger. The bird seemed to hang in air, crumpled, and catapulted to the ground. Lady retrieved the grouse and, as she passed in front of John, he tried to take it from her but she countered with a muffled throaty growl, backed off and made a semicircle around John to the judge, and laid the bird in her master's hand, wagging her tail with evident satisfaction and approval.

"According to that dog, Judge, you shoot all birds," John complained. "She retrieves all birds to you. She won't hunt with anybody but you. No use having that dog in the field when you aren't along. Spends all her time looking for you. I'm half afraid of her but must admit she's good."

"Yes," the Judge answered gently, concealing his pride, "Lady and I are pals and friends. Have been ever since I got her as a twelve month old pup from some folks who abused her. I admit she's a one man dog, sometimes acts mean to others, but I love her and she loves me. We understand each other."

The three friends hunted throughout the day with some successes, many failures, much laughter and mutual raillery, and thorough enjoyment. Toward evening, they worked up Grove's Run toward camp. There being about an hour of daylight remaining, Charlie headed directly for the camp to get supper. John and the Judge bore off to the right through the flat along the stream for a last try. Half way to the cabin, Lady froze into a rigid point. The hunters advanced and flushed a woodcock which flew in a semicircle from their right to the left, thus staying in range the maximum time and giving ample opportunity for John and the Judge to empty their guns. As the woodcock threatened to disappear down Grove's Run, they both fired despairingly, a last effort. The woodcock fluttered down in the brush and evaded discovery until Lady spotted it under the bank of the stream, alive but wounded slightly which is usually enough to put down a woodcock.

"Six shots at one woodcock and still the dog has to get it for us," laughed the Judge. "Thirty cents invested in that bird. Let's quit. We ought to after that exhibition."

"Okay with me, Judge," John said. "We have our share of game. I'm sure own a powerful appetite."

After a steaming and toothsome meal, the three comrades slouched around the stove, pipes afire and drawing smoothly, healthy, tired bodies, filled stomachs, tranquil and contented minds. Tongues, loosened by the freedom of the mountains, wagged. Stories, tall and short, curious tales, and reminiscences of former days featured the hour of talk before sleep exerted mastery and conquered. The Judge philosophized:

"I was riding down the Lincoln Highway one day and, feeling hungry, stopped at a roadside stand to get a hamburger sandwich. While waiting for the hamburger to cook, I saw this bit of doggerel on a card, tacked on the wall, and I memorized it:

'Did you ever think as the herse rolls by
That it won't be long until you and I
Will be taking a ride in that large plumed hack
Without any intention of ever coming back?
Did you ever think as you grab for gold
A dead man's hand a dollar won't hold?
You can grasp and grab and try to save
But you can't take a dollar beyond the grave!'

"That sure does tell the story," Charlie exclaimed.

"Well, money does have its place," the Judge mused. "But its importance has been greatly exaggerated. Take, for instance, ourselves right now. Here we are away up in the mountains. There is only one family in this entire township. We are miles from a human habitation. We have shelter, clothes, blankets, food, a good dog, shot-guns, and shells. We've had a grand day of hunting and a meal fit for a king. Our health is good, our appetites keen, and there's plenty of wood over there in the corner. If each of us had a million dollars in cold cash on that table, we would have no need for it. We have all we need and nothing that million dollars could buy would add to our health or happiness. Besides, the million dollars would be valueless up here. There's no place or store at which to buy. After all, debts, taxes, bank balances, and the like don't mean much up here. The things that count are fundamentals such as shelter, raiment, food, and health. Maybe, that's why so many men like to get away to the mountains, hunting and fishing. By the way, John, how come you don't lock this cabin. I noticed it was unlocked when we arrived. I believe you said you all left it that way. I'd think you'd lose a lot of your equipment."

"Well, sir," John replied. "That's a mighty curious thing up this way. As a matter of fact, this cabin was built about twenty-five years ago. It's the first cabin left standing by the natives. You see, prior to that time, different outfits built cabins only to have them burned down. A man from Philadelphia put up a young mansion over near the headwaters of Little Birch. He went to considerable trouble, stone hunting lodge, fireplaces, running water, beds, good furniture. But, when he came up in the spring, it was ashes, burned to the ground. And, of course, no one in these parts knew anything about it. Just one of those things that happen. The real reason the natives hereabouts left our cabin standing was that we never locked the door. That meant that we trusted them and they were welcome to use it in cases of necessity such as being storm-stayed. That made neighbors out of us. As a result, our cabin has never been molested. A number of others were burned down because a locked door accused the natives, attacked their honesty and integrity, and wasn't neighborly."

"That's mighty interesting, John," the Judge said. "Yet, it all sounds sensible and logical. Well, Charlie, I've got time for just one more story before I tumble into bed. Do you have anything to offer?"

"Well, now," Charlie said slowly, "I don't know as I have much to offer. Just been sitting here sort of comfortable, listening to you fellows. Must admit it's been right interesting. Your talking reminded me of the last time I saw Ed Rutherford. He told me about his fishing trip last summer. Peculiar thing happened. Said he was going up a trout stream when he suddenly came upon a grouse that didn't take alarm and roar away at his approach. Ed said he thought it was strange, looked closer, and saw that the bird was trembling and staring straight ahead. Sure enough, there was a rattlesnake weaving its head back and forth, hypnotizing that grouse so that it couldn't move, just trembled and fluttered slightly as though anchored to the spot. Ed looked around for a club and, finding one, slipped up quietly on the snake and killed it. The grouse, liberated by death from the spell of the rattlesnake, shuddered a moment, then flew blindly upward, still dazed, struck a limb of a dead tree, broke its neck and fell dead. Ed brought both the dead grouse and the dead rattlesnake into camp as proof in case anyone doubted him. Reckon I'll go to bed."

Charlie yawned and started toward his bunk. John and the Judge looked at each other speechless. Admitting defeat, they silently prepared for bed and turned off the valve of the gasoline lamp. Within two minutes, the flame flickered out and the cabin was dark.

HILLBILLY DUCKS

(Continued from Page 3)

the trigger more in salute to my chagrin rather than with the hope of dropping the fowl. So you can well imagine that my face was a deep shade of red when the belated gadwall folded up.

That ended my shooting for the day. However, three ducks in less than three minutes

was more than I had hoped for, and more than plenty for a savory duck dinner.

Since then I have found out that a number of freshwater ducks regularly frequent groves (often miles from water), to feed on beech-nuts and acorns when in season.

This fall we again visited the woodland. The

acorn crop was abundant, and as of yore, just before dusk flocks of mallards and gadwalls came winging in to feed on the rich fare. But, when the season opens they will not be blasted by charges of chilled shot, for the Forester and I both believe that a bird in the bush is worth a whole bag limit of dead ones in the hand.



ANNUAL REPORT ON WILDLIFE ACTIVITIES

(Continued from Page 7)

C.C.C. aid to better wildlife conditions for they form a basis for management.

Indirect Wildlife Benefits:

The planting of over a million trees on the Forest during 1938 will help to improve conditions for wildlife.

Timber sales on Government land have helped to create sprout growth and winter deer range.

Improvement cuttings on plantations have been made during the winter. Most of the trees have been small aspen, the tops of which have been fed on extensively by deer and rabbits. It has been found that cuttings made for feeding deer in winter can be combined with good forestry practice in many stands. Trained crews are needed for this job, however, for it is important to pick the right trees to be cut or left.

Fire protection has kept the fires small; a most important factor in the promotion of better conditions for wildlife. There has been no bad fire on the Forest since 1934.

Stream Survey:

A survey has been completed of all of the important streams on the Forest. A record was made as to minimum flow, highest temperature,

condition of bottom, amount of plant growth, quantity of fish food and such other factors that would help to classify each stream. As a result of this survey each stream is designated as to the kind of trout or other fish best adapted to it and a stocking plan recommended. Fish are being obtained from both State and Federal hatcheries. Most of the legal size fish are supplied by the State Board of Fish Commissioners. All parties are cooperating fully to reach the goal of better fishing on the National Forest.

Farnsworth Trout Rearing Station:

Construction work was started on a small trout rearing station as an additional aid to better fishing on the Forest.

Conclusion.

This report is being sent to all Sportsmen's Clubs in the vicinity of Allegheny National Forest. I desire to show that the Forest Service is interested in all aspects of its land values. Since we are a public agency, I believe it is right for you all to know what we are doing and conversely this should give me an opportunity to learn what the sportsmen desire.

G. E. SPINNEY,
Acting Forest Supervisor.

A PROGRESS REPORT ON PENNSYLVANIA'S NEW RABBIT PROGRAM

(Continued from Page 5)

for the rabbits (including express charges) imported from the Middle West during the same season. This latter figure likewise does not include any part of the time and travel expenses of regular field employees incident to the distribution of such animals.

If the live-trapping and redistribution program continues to expand and produce as it has during the past two years, it may well be that in the near future it will be the part of sound management to discontinue entirely the purchase of western rabbits, keeping the money which has heretofore been used for such purposes "at home" where it can be used to provide "more and better" native-bred Pennsylvania cottontails for restocking purposes.

Summary and Conclusions

Though it is impossible to measure accurately the benefits derived from the new rabbit program, it is obvious that the food and cover development work completed, the system of small retreat refuges established, and the live-trapping and redistribution activities carried

on during the past two years have materially aided the "comeback" staged by Pennsylvania's farm-game species since 1936. If the land-owners and sportsmen will not only continue the splendid cooperation afforded the Commission in its management program during the past biennium, but will increase it, there is every reason to believe that highly favorable shooting seasons will be regularly enjoyed in the years to come.

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LAND; ITS CLASSIFICATIONS, AND THEIR MEANINGS

(Continued from Page 6)

and maintained under authority of law. The report or result of such examination is what is known as a "Title Search," from which is determined whether or not the grantor has a marketable title to his land. In the case of acquisition by the Commonwealth, a complete search is made and covers the whole period from the present owner back to the ownership by the Commonwealth, or previously to the time of the Proprietaries. In addition to title searches, boundary line surveys are made of all proposed purchases. This activity is necessary in order to determine the exact location of the land, particularly in cases where it is unseated, also to be able to calculate its true area, and finally for the purpose of constructing a map of the tract which is of assistance to the abstractor in his study of the title. After the land is acquired, this map becomes a most necessary adjunct to the various activities necessary for an efficient administration of the game lands.

While basically it may make very little difference to an abstractor whether land is found to be on the seated or unseated list, yet from the land surveyor's standpoint he will meet with problems when running out the boundaries of tracts which are assessed in the one class that are entirely different from those encountered in the other. Due to the character of unseated land, the general location of the property is all that is known prior to the surveyor starting his work. On account of its low value, the method of making prior surveys was entirely different from present day practice. Very little is known of the correct property lines, either by the owner or the adjoiners, original corners and other ancient landmarks have been mutilated, moved or destroyed, deed descriptions and maps are in most instances found to be faulty, and the game land engineer is forced at times to make extensive searches and additional surveys before some of the problems can be solved.

On the other hand, when seated land is surveyed, one deals with improved areas in the form of occupied farms or abandoned and idle farmland. These boundaries are fairly well known by both the owner and adjoiner; landmarks usually have been recognized by all interested parties for a sufficient length of time to be acceptable to them, and in case of disagreement over the exact location of some boundary line, a compromise agreement is most always possible. A discussion of this phase of land classification could be continued at length, but one must turn to another present-day problem of vital importance, and which is widely discussed by economists and representatives of public and private agencies. It is that of marginal and sub-marginal land.

The term "marginal land" is a much abused word. "Marginal," itself, pertains to a limit of change in economic conditions which deter-

mines the point where any given process, action or the like will cease to be. In the case of marginal land, it is that point above which earnings will produce a profit to the owner, and below which they will show a loss.

The expression "sub-marginal farmland" refers to land so low in productivity, and value of the products sold therefrom, that it is not capable of yielding to the average farmer a commensurate return for his labor and capital. Satisfactory living conditions cannot be derived from land of this type, when taken over a period of normal years. There is no well defined line of demarkation between a marginal and sub-marginal farm. So many factors enter into the cost of production and those of marketing, that land may be marginal in one use and not in another; it may be marginal with one operator or in one season and not with others.

Idle or abandoned land is exactly what the names imply, and, when first observed, is unconsciously placed in the marginal or sub-marginal classification. That conclusion, however, is not always correct. So many reasons can enter into an owner's discontinuance of operations on his farm that only a careful investigation will reveal its true worth.

During the early period of Pennsylvania, from the time when the title to the land became vested in William Penn, later in his heirs, and finally acquired by the Commonwealth, one of the policies was to get the public domain into private ownership. There appears to have been no fixed plan for conserving its natural resources. Thousands of acres were cut over by both large and small lumber companies, with no thought or provision made for reseedling or restocking the denuded areas. Much of the deforested land was converted into areas for agricultural use. There was a continuous increase in the number of farms until around the turn of the present century. Since that time there has been a steady decrease in the number of farms in the State, with a corresponding decrease in the total acreage of profitable farmland.

It is with problems such as these that the economist is dealing and endeavoring to solve. One of the policies is a recommendation of the purchase of submarginal farmland and permanently retiring it from agriculture; also the acquisition of cut-over forest land and placing it under good forest and game management. While the Game Commission is acquiring both types of these lands primarily for game lands, it is also in a direct way assisting with the plan of retiring the overabundance of idle and abandoned lands from private ownership, and developing it to a form of public usefulness.

COYOTE FUR

(Continued from Page 12)



Coyote fur, with its long, blowy tips and light buffy, gray or brown color makes beautiful capes, collars, cuffs and trimmings for a great variety of garments.

valuable as farther north and for two years past, to my own knowledge, there has been little incentive to trapping. The little live stock and poultry are generally kept well protected and about all the mischief the coyotes are accused of is eating too many grapes, tomatoes and watermelons in season. The farmers generally realize that the coyotes keep down the rabbits and ground squirrels and are more beneficial than harmful to their interests. In fact the jack rabbits are as much below normal abundance as the coyotes are above. In two weeks I saw only one jack rabbit, though their tracks were not uncommon.

These coyotes, however, showed no signs of fat and their present (December 15-28) diet of mainly over-ripe tomatoes left in the fields was not very nutritious. Enough rabbits, mice and acorns were eaten to keep them in good running condition and the mild climate evidently did not require hearty food. The problem here is how long can these coyotes go on increasing without serious consequences to themselves and others. That should be watched with much interest.

I love to hear them calling back and forth from my open windows at night, but when it becomes necessary to collect a few specimens I have no compunction about catching them in traps that hold them without injury and putting them to sleep with monoxide gas or letting them go for the tail end of a moving picture.

Over the country at large the coyote problem

is nothing to worry about and if intelligently handled these interesting animals are an asset comparable with other valuable fur-bearers. If stupidly protected they may become very destructive or if their impossible extermination is attempted at great expense little advantage is gained.

So far as possible the interesting and valuable wildlife of our country should be maintained in such abundance as local conditions warrant and the best interests of all in present and

future generations seem to be served. Much readjustment is necessitated by settlement and cultivation of the land; some animals must go almost entirely from occupied areas; others must be restrained from over-abundance; and still others carefully guarded from careless or mercenary destruction. Our relation and responsibility to wildlife is full of intricate problems that can be wisely determined only by a full knowledge of the value, habits, and needs of each and every species.

ARTIFICIAL PROPAGATION OF RUFFED GROUSE

(Continued from Page 9)

satisfactory for feeding, followed later by lettuce, scalded pheasant meal No. 12 and any fresh fruits available at the time. The foods should be presented in such a manner as to prevent the birds treading in it.

Dr. Allen learned that the birds never did as well without clean fly larvae. The same year this was confirmed by Mr. Donald Turrill, gamekeeper of the Rolling Rock Club, near Laughlinton, Westmoreland County, Pa. He fed fly larvae and caterpillars of various species to his birds during the fourth week and in his words, "a decidedly noticeable improvement in the growth and general vitality of the chicks showing at once." Mr. Handley of Virginia reports in 1930, that the development of his bird's plumage was poor till fed fly larvae, when the development became normal. This seemed to become an established fact, but in 1935 Gardner Bump, superintendent of the New York State Experimental Game Farm near Harvard, New York, stated that, "The feeding of clabber and any live animal food such as fly larvae and eggs or bee larvae, was discontinued as unnecessary and none was used in the raising of the birds at the Experimental Game Farm this year." The day-old chicks were raised satisfactorily on a combination of hard boiled eggs, moist mash, lettuce and grain. By and large the feeding problem of ruffed grouse in captivity is not a very serious or very complicated one. The birds seem to thrive on any reasonable diet.

However, to get back to Dr. Allen and his first brood of freshly hatched ruffed grouse, we find that the feeding problem is indeed a minor consideration. Within eight short weeks all of his grouse were dead with the exception of one which lived to die at maturity by flying against the wire of the pen. What then was the major problem preventing the raising of this bird? Dr. Allen learned the first try he made that there were many causes preventing this, which can be summed up to a large extent in one word—diseases. No, not one, but many. The bird seemed to have a high affinity for all the diseases that were ever known to poultry and bird raisers. Not only did the bird have this affinity for them, but most of them proved to be fatal to the grouse. In the ten years ending with 1929 Dr. Allen tried every conceivable method he could think of to combat this disease factor without any startling success; the end of each year bringing the same story . . . but, maybe next year would bring the answer. Although he did not find a successful method to prevent disease, he did learn many facts about what not to do, and certainly he is deserving of much credit for his determined efforts in the face of such discouraging results.

To W. B. Coleman, of quail breeding fame, goes the credit of developing a successful method of raising this bird comparatively free of disease. He obtained a nest of 13 eggs and successfully hatched all of them on May 25, 1930, in a Mammouth Buckeye All-Electric Incubator at temperatures between 99 and 100 degrees F. One bird died within three days; the remainder were normal and healthy. Mr. Handley of Virginia reports the chicks as being more tame than quail, about the same as baby chickens. An interesting case of the tameness of this bird is told by Dr. Winecoff of Pennsylvania. He reports that in the spring of 1930 Mr. Elmer R. Wantz of York, Pa. rescued a day or so old grouse from a forest fire and raised it amidst domestic poultry into a fine cock grouse, till it accidentally ate some arsenate of lead and died. The bird was so tame that it came to him when called by name. Mr. Turrill also reports extreme tameness of his birds. During the day his birds were turned out into the forest and he would go out in the evening and pick them off their perches to bring them back for safekeeping for the night. Twenty-four hours after Mr. Coleman's grouse hatched he transferred them to an electrically heated, elevated, wire-bottomed brooder provided with a wire runway. He experienced quite some trouble with cannibalism, which he treated by clipping the chicks' beaks and isolation in bad cases. It was necessary to cut the beaks three times. Dr. Allen had the same trouble in 1930, but after he fed them fly larvae they stopped picking each other and lost their appetite for droppings. At about six weeks they again started picking and had to be separated. Mr. Coleman raised five of the birds successfully. Death of one of the birds was caused by ulcers in the gizzard; the others were not examined.

It began to appear that raising the birds on wire and getting away from bantam parents was a step in the right direction. It was definitely proven that poultry and grouse were entirely incompatible. This may be judged by a statement made by Dr. Allen in 1931. "That one could expect to have better success rearing ruffed grouse on Fifth Avenue in New York City in a wire-bottomed brooder than in the North Woods with a bantam foster-mother." This statement was not idly made, but was based on reports of experiments by no less than eight other experimenters during that year, as well as his own conclusions. The conclusion, at this time, was that sanitation, and as Gardner Bump adds, extreme carefulness is the solution.

(To be continued next month)



The American Sportsman's Creed

LET ME pause in these momentous days and think with wonder and reverence how the spirit and activity of the American pioneer hunters and fishermen have given us the American soldier—that splendid type of the land of the free and the home of the brave.

Iwant my boy and his comrades and the boys of the future to receive this heritage of gun and rod. It is a heritage of the open, which now must be idealized to a love of nature and a thoughtfulness for the meaning and preservation of life.

FEELING this, I record my unalterable belief that a Sportsman should

- 1 - Never in sport endanger human life.
- 2 - Never kill wantonly, or needlessly or brutally.
- 3 - Obey the laws of State and Nation, work for better laws, and uphold the law-enforcing authorities.
- 4 - Respect the rights of farmers and property-owners and also their feelings.
- 5 - Always leave seed birds and game in covers.
- 6 - Never be a fish-hog.
- 7 - Discourage the killing of game for commercial purposes by refusing to purchase trophies.
- 8 - Study and record the natural history of game species in the interest of science.
- 9 - Love Nature and its denizens and
be a gentleman

To this ideal I consecrate myself—that sport shall not be my only aim—that my reward and my lesson shall be in the thrill of the chase and the glory of the heights, and the whistle of the stag—in the music of the murmuring stream and the leap of the playing trout—in the gold of the autumn's woods and the whirr of the ruffed grouse—in the sweet soft scent that breathes from off the sea and in the beauty and silence of the lonely hills and dells.

The above creed was written by Zane Grey, the well-known author for the American Game Protective Association. The nine principles it embodies are the result of the collaboration of Mr. Grey with Messrs. Charles Sheldon, John B. Burnham, Dan Beard, E. Bartlett Hayward, W. S. McCrea, Frederick W. Vreeland, and other well-known sportsmen.



HELP



WILDLIFE

**LEAVE COVER
ALONG FENCE ROWS**

PENNSYLVANIA GAME COMMISSION

PENNSYLVANIA GAME NEWS



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An Analysis of Game Bills Passed by the 1939 Legislature

EDITOR'S NOTE: Last month we promised a full account of all game legislation passed by the 1939 Session. We are, therefore, utilizing the editorial page this month to give you this information.

ONLY two pieces of game legislation finally passed through the hops of the 1939 General Assembly. One, House Bill No. 482, contained formal acceptance by the Commonwealth of the provisions of the Pittman-Robertson Wildlife Aid Act in order that the Game Commission may continue to receive such federal assistance. The other, Senate Bill No. 1129, drawn up as a substitute for H. R. 1126 by the Federation of Sportsmen's Clubs and the Chairmen of the Senate and House Game Committees, which is now before the Governor for approval, contains various amendments to the Game Code as follows:

(a) It sets up definite geographical sections of the Commonwealth from which Members of the Game Commission shall in the future be appointed; namely, (1) one from the Counties of Erie, Crawford, Mercer, Lawrence, Venango, Butler, Warren, Forest, and Clarion constituting the first district; (2) one from the Counties of Beaver, Allegheny, Washington, Greene, Armstrong, Indiana, Westmoreland and Fayette constituting the second district; (3) one from the Counties of McKean, Elk, Jefferson, Potter, Cameron, Clearfield, Clinton and Centre constituting the third district; (4) one from the Counties of Cambria, Somerset, Blair, Bedford, Huntingdon and Fulton constituting the fourth district; (5) one from the Counties of Tioga, Lycoming, Union, Bradford, Sullivan, Columbia, Montour and Northumberland constituting the fifth district; (6) one from the Counties of Snyder, Mifflin, Juniata, Franklin, Perry, Cumberland, Adams, Dauphin, York, Lebanon and Lancaster constituting the sixth district; (7) one from the Counties of Susquehanna, Wyoming, Luzerne, Lackawanna, Carbon, Wayne, Pike and Monroe constituting the seventh district; (8) one from the Counties of Schuylkill, Berks, Chester, Northampton, Lehigh, Bucks, Montgomery, Philadelphia and Delaware constituting the eighth district.

(b) The law was changed to prohibit persons between the ages of 12 and 14 from hunting unless accompanied by a parent, guardian, or some other member of the family 21 years of age or older; or between the ages of 14 and 16 to hunt unless accompanied by an adult at least 21 years of age. These regulations do not apply if the hunting is done on lands whereon such person resides.

(c) The hunting season for woodchucks was set from July 1 to September 30 inclusive. The hunting hours for woodchucks extends between 6:00 A.M. and 7:30 P.M., Eastern Standard Time. Woodchucks may be dug out of their dens or killed in any manner at any time by landowners or occupants of farms, or by members of their family or hired help, when such dens are located in their cultivated fields. The animals may also be dug out of cultivated fields during the regular open season by regularly licensed hunters, provided they first secure specific permission from the owner or occupant and that they replace the earth and level off the area dug out immediately after the animal has been removed.

(d) The trapping of raccoons in certain counties, to be designated by the Commission, may be allowed regardless of the muskrat season. Heretofore such trapping season could not be opened prior to the muskrat season. The bill further provides that any bona fide occupant of a farm which lies within any county not declared open to general public raccoon trapping may trap the animals on his own land, including woodlands which are a part thereof.

(e) The antlerless deer provision of the Code was one of the controversial subjects, but most of the wrinkles were apparently ironed out and the discretionary powers which some individuals felt should be taken away from the Commission were finally restored. Under the bill before the Governor the Commission may declare a doe season without control permits, or may in its discretion issue special permits to hunt antlerless deer for a fee of \$1.00, but landowners may hunt on their own lands and adjacent property, other than public lands, without any special permit.

The new law also defines the term "antlerless" deer to be a deer without an antler, sometimes called horn, meaning the bony growth on the head of a deer regardless of its size or development.

The bill also specifies that if at any time the Commission shall by resolution declare on open season for antlerless deer throughout the Commonwealth or in any given county or part thereof such open season shall be abrogated in any county if there is filed with the Commission a petition opposing such antlerless deer season signed by a number of residents of that county who held Pennsylvania resident hunting licenses the previous year equal to fifty per centum of the total number of licenses issued to residents of that county for the previous year. Said petition must be filed at least thirty days prior to the opening of the proposed antlerless deer season. Any person signing such a petition who is not a resident of the county to which such petition relates, or who did not hold a resident hunting license for the previous year, shall, upon summary conviction, be sentenced to pay a fine of ten dollars and costs of prosecution, and upon default thereof shall be imprisoned for a period of five days.

(f) The trapping season on minks, opossums and skunks was stated from November 15 to January 31 next following; muskrats, December 1 to January 31 next following; beavers, January 15 to January 31.

(g) The law was changed to prohibit the possession of the green pelt of a fur-bearing animal or a raccoon except during the open season therefor and for 10 days thereafter. The term "green pelt" is defined to mean a pelt which is not dried, or cured, or tanned, and the possession of same after the close of the open season shall be prima facie evidence that such pelt or part thereof

(Continued on Page 31)

ON AN OLD WOODS ROAD

By M. J. LAMB



On an old woods road when the leaves are green,
And the sunshine sifts through the leafy screen,
The earth lies dappled with the light and shade,
And a deer glides softly through an open glade;
The soft breeze rustles in the tree-top high
There's a tinkly murmur from the brook nearby
To the old woods road.

On an old woods road when the leaves all brown
And gold and red are drifting down,
Stroll along some day, and your heart will sing
As you catch the whirring of a pheasant's wing,
Or a chipmunk's chatter, or a bluejay's call,
Or a squirrel's shrill barking. You will hear them all
On an old woods road.



Two paralleling mountain ridges about half mile apart constitute an idea setting for wild turkeys.

PENNSYLVANIA'S WILD TURKEY RANGE

Introduction

DURING the twentieth century north-central Pennsylvania has represented the northern limit of the natural range of the eastern wild turkey (*Meleagris gallopavo silvestris*). Never within the written records of history has the species been absent from certain parts of the Commonwealth, though the total population was greatly reduced during and immediately following the major lumbering operations carried on throughout the latter part of the nineteenth century.

The present range of the turkey includes only a relatively small and definitely defined portion of the total area of the state. Following the establishment of the State Wild Turkey Farm in 1929 attempts to widen the range were made by stocking the captive-reared birds in other sections. For the most part, however, these efforts met only with failure, and in recent years the Game Commission has confined its turkey management activities to those districts lying within the so-called "true range" of the species.

One of the first steps necessary to the formation of a sound turkey restoration program has been to determine the exact limits of the bird's range and to attempt to discover exactly what factors control the extent of that range. It is the purpose of this paper briefly to discuss certain information concerning these two points which has been gathered during the past two years.

Original Range

According to numerous early records, the wild turkey was common to almost all the wooded sections of Pennsylvania when the explorers and settlers first came to the Commonwealth. This was doubtless due to the highly favorable conditions then extant.

The forest was almost entirely virgin. Since practically all the trees were of fruiting age, a bounteous winter food supply was available in the form of heavy mast crops. Chestnuts, beechnuts and acorns were produced in far greater quantities than were required for food by the game birds and mammals. Cover conditions also were favorable. Then harassed

By ROGER M. LATHAM

Division of Research

principally by only a few thousand Indians and certain species of animal predators, the turkey depended largely upon its extraordinarily keen eyesight and hearing to escape such enemies, and the tall trees with comparatively little underbrush provided excellent opportunities for use of these powers of vision and audition. Finally, the many grassy openings scattered through the primeval forests provided ideal conditions for rearing the young.

Present Range

Its original extent greatly reduced, the present range of the wild turkey embraces a total of approximately 2,000,000 acres, including parts of 28 different counties. As indicated on the map presented in Figure 1, this range may be divided into two types, primary and secondary. The former represents those areas where populations of shootable size have been more or less constantly maintained during the past two decades, while the latter is composed of smaller, and frequently widely separated units where a few scattered flocks of turkeys are known to exist. The approximate acreage of each of the two types of range found in the various counties is shown in Table 1.

Reduction Factors

The great reduction in size exhibited by the present extent of the turkey range may doubtless be attributed to two major activities of man. The first of these is agriculture. As the State was settled and developed, many of the forested areas originally inhabited by turkeys were cleared for farming areas which no longer provided conditions suitable for the birds. Since such development has reduced the forested area of the Commonwealth, exclusive of farm woodlots, from over twenty to less than ten million acres, it undoubtedly represents the first and greatest of the two principle range reduction factors.

The second major factor was lumbering. As the timber was cut from the mountains, they no longer presented a particularly favorable habitat for the turkeys. Fortunately, however, activities of this type are more or less temporary in their limiting effects and they did not simultaneously take place in every wooded section of the State. Thus, though greatly reduced in numbers, the turkey was able to keep its foothold in the Commonwealth, and as the forests have again grown up in the mountainous areas the turkey populations therein (greatly aided by strict legal protection and a carefully planned system of refuges) gradually have increased during the past thirty years.

Current Limiting Factors

Almost without exception the present turkey range is confined to the oak-pine* forests in the southern half of the State. Practically speaking, no birds are found in the birch-beech-maple forests in northern Pennsylvania. Thus it would appear as if the former forest type must present certain range essentials not found in the latter. The problem, therefore, has been to make a comparison of the conditions extant in the two sections, and by so doing to discover just what the limiting factors of the range may be. The findings revealed by recent field studies are discussed in the paragraphs which follow.

Geology and Topography

The present distribution of wild turkeys in Pennsylvania appears to be very closely tied in with certain geological formations. Approximately seventy percent of the mountain lands in the present range are of Medina and Oneida formations. These are represented by three types of sandstone, Tuscarora, Juniata and Oswego. The Tuscarora is a thick-bedded, quartzitic, white sandstone suitable for gainster and sand; the Juniata is a red sandstone and lumpy shale combination, while the Oswego is a massive gray sandstone of undetermined age. *Most striking is the fact that all Medina and Oneida formations in the State are confined to the south central part and that wild turkeys are*

* Formerly called oak-chestnut.

PENNSYLVANIA'S WILD TURKEY RANGE

found on every mountain of this composition. Furthermore, all the primary turkey range not of this formation is found either surrounded by or closely adjacent to it.

A considerable amount of mountain land and a great percentage of the valleys between the turkey mountains are of the Salina (Cayuga), Niagara and Clinton formations. The Cayuga, a finely laminated limestone and calcareous shale, includes the Tonoloway and McKenzie limestones, and the Wills Creek shale. The Clinton formation is described as being a green fossiliferous shale, weathering buff to pink, and thin rusty, very fossiliferous sandstones, with beds of workable hematite iron ore and heavy-bedded Keefer sandstone near the top. This formation is found almost entirely in Huntingdon, Blair and Bedford Counties.

In eastern Bedford and western Fulton Counties lie several mountain ranges that maintain a sizeable turkey population, but are of entirely different formation than the large part of the turkey range already described. This is the Pocono formation which is a thick-bedded coarse gray sandstone and conglomerate. The Allegheny Front, which is the point farthest west where turkeys are found in any numbers, is also representative of the Pocono formation. The presence of turkeys on certain mountains of this formation can be explained by two reasons: (1) Because this land is either surrounded or very closely adjacent to mountains of Medina and Oneida formations, and (2) these ranges are far enough south to be wooded with the oak-pine type forest in which the wild turkeys are confined. It is apparent, then, that the great majority of the wild turkey range is composed of certain types of sandstone overlaid by limestone soils.

Wild turkeys are found in Pennsylvania in forests with altitudes ranging from 800 to 3,000 feet. The mountains and ridges of the wild turkey region, however, differ greatly from those of the Allegheny and Pocono ranges where the birds are not now found.

The present turkey range lies almost entirely within the confines of the Ridge and Valley, or Vallemont, Region. Here are found long, narrow-topped mountains with precipitous sides. These may extend as far as fifty to one hundred miles, broken only by an occasional narrow gap. The tops are rarely a half mile wide and may be merely a

Estimated Wild Turkey Range in Pennsylvania

County	Primary Range	Secondary Range
Bedford	145,000 Acres	.... Acres
Berks .....	.... Acres	35,000 Acres
Blair	130,000 Acres	.... Acres
Cambria	80,000 Acres	.... Acres
Cameron .....	.... Acres	2,000 Acres
Centre	300,000 Acres	125,000 Acres
Clearfield .....	.... Acres	60,000 Acres
Clinton	70,000 Acres	80,000 Acres
Cumberland	35,000 Acres	.... Acres
Dauphin .....	.... Acres	50,000 Acres
Elk .....	.... Acres	15,000 Acres
Fayette .....	.... Acres	5,000 Acres
Franklin	50,000 Acres	.... Acres
Fulton	60,000 Acres	.... Acres
Huntingdon	225,000 Acres	.... Acres
Indiana .....	.... Acres	2,000 Acres
Jefferson .....	.... Acres	3,000 Acres
Juniata	65,000 Acres	10,000 Acres
Lebanon .....	.... Acres	15,000 Acres
Lycoming	40,000 Acres	.... Acres
Mifflin	90,000 Acres	.... Acres
Perry	70,000 Acres	20,000 Acres
Schuylkill .....	.... Acres	25,000 Acres
Snyder	30,000 Acres	5,000 Acres
Somerset	100,000 Acres	15,000 Acres
Union	35,000 Acres	.... Acres
Warren .....	.... Acres	8,000 Acres
Westmoreland ..	.... Acres	2,000 Acres
Total ...	1,525,000 Acres	477,000 Acres
Grand Total	2,002,000 Acres	

few feet across. All the mountains and ridges in this region run parallel and the turkeys are wont to fly from one to the other in search of food or to escape hunters or predators. In direct contrast to this type of terrain, the mountains of the Allegheny and Pocono ranges are for the most part comparatively short, run in all directions and have large flat tops, usually several miles in width.

The ideal setting for the wild turkey presents itself when two paralleling mountains or ridges are about one-half to one mile apart and the valley between is composed of approximately seventy percent forest and thirty percent cleared land, particularly abandoned farm land. Nesting and roosting sites, openings in which the

young poults may feed, plenty of water, ease of escape flight, and all other range requirements are offered by this setting which is far more common in southern than northern Pennsylvania.

Climatic Conditions

The greater severity of winters in the northern part of Pennsylvania as compared to the south-central part is believed by many to be a range limiting factor, in that the wild turkey is unable to withstand the lower temperatures of the northern counties. It is only necessary to consider that at one time wild turkeys lived as far north as southern Canada to realize the falsity of this belief, unless it may be that in recent years the bird has undergone a physiological change which is hardly to be expected.

This difference in temperature (about ten degrees) is, however, an important factor in respect to the variation found in the plant life of the two regions, since many of the plants and trees restricted to the southern half of the State produce natural food for the wild turkey. Most important of these is the black gum (*Nyssa sylvatica*).

Also in the southern part of the State crops of fruit and mast are produced more regularly due to the infrequency of killing frosts in the spring. Furthermore, the amount of snow-fall in the turkey range is usually much less than in the northern part of the State, and the southern slopes of the turkey mountains are bare of snow during much of the winter, thus making food more readily available.

Food

In comparing the food supply of the two forest types it is only necessary to consider those foods that are available in the winter and early spring as each type furnishes an abundance of summer and fall foods in the form of insects, berries, seeds, succulent greens, etc.

At present due to the disappearance of the chestnut, mast, an essential source of winter foods, occurs mainly in the form of beechnuts in the northern forests and principally as acorns in the south-central forests. Both are high in nutritive value and either will suffice as winter food if available. A regular acorn

Here are found long, narrow-topped mountains with precipitous sides.



PENNSYLVANIA'S WILD TURKEY RANGE

crop can be expected year after year while the beechnut crop is not nearly so dependable. It becomes apparent, therefore, that in the birch-beech-maple forests a good mast crop cannot be relied upon oftener than once every two to three years.

Another peculiarity occurring in the oak-pine forests is that the trees are more widely spaced than those of the northern forests and consequently produce a greater amount of mast, permit fruiting ground cover, and in general provide a more suitable habitat for the wild turkey. Also, several species of food producing trees and shrubs occur in greater abundance in the turkey range than in the forests to the north.

Another factor related to food and cover, which is usually given little thought by the average hunter, is that of the deleterious influence of an excessive deer herd. Where definite overbrowsing has occurred, the low shrubs and plants, bearing summer food in the form of berries, fruits and seeds, have been reduced to a state nearing eradication. This loss of underbrush and ground cover also tends to reduce the supply of insects which are so valuable as food for the young turkey poults during the brooding season. Then the decrease in summer and fall foods throws an increasingly heavy demand on the mast crops, which is also eaten in great quantities by the deer, thus always working adversely upon the turkey. *It has been noted in innumerable instances that as the deer increased in certain sections of the State the wild turkey population decreased along with that of the grouse and cottontail rabbit.* Thus it may possibly be that the present concentration of deer in the northern counties may be one reason why the turkeys have not moved into the northern forests.

Regardless of the amount of food in an area, wild turkeys will not forage in that place if it offers unsuitable cover conditions. Likewise an area offering optimum cover conditions will not sustain a wild turkey population unless a sufficient quantity of food is present.

Cover

Cover for wild turkeys does not appear to be an important range limiting factor as satisfactory cover conditions appear in numerous places outside the true turkey range. However, the more open oak-pine forests provide more nearly ideal conditions. A distinct correlation occurs between food and cover as either is of little value without the other.

Area

As wild turkeys are inclined to often travel several miles in a single day while foraging, it is apparent that their range must be of sufficient size to permit free movement. It is believed an unbroken area of 10,000 acres represents the minimum extent of a favorable range unit.

Protection

The wild turkey in Pennsylvania is given identical protection from man in all parts of the state where it is found. Therefore, since predation would be expected to occur in almost



Turkeys like open areas upon which to feed and play.



Flock of native wild turkeys on refuge area in Bedford county.



Mother wild turkey on nest. Wise laws supplemented by natural and artificial propagation are helping the wild turkey to hold its own in Pennsylvania.

PENNSYLVANIA'S WILD TURKEY RANGE

equal intensity in all parts of the mountainous regions of the State and would be likely to have similar effects on the turkey populations, it appears unreasonable to believe that the lack of proper protection from man or beast is a limiting factor of the turkey range.

Legal Hunting

The annual legal kill of wild turkeys since 1915 has averaged approximately 3,800 birds per year with a minimum of 2,300 and a maximum of 6,600. The legal kill is carefully controlled by the Game Commission so that the turkey population does not reach a dangerous low in any county within the present range. Counties outside of the turkey range in which plantings have been made are usually closed for a period of years in order to allow the birds to become established. Thus, this can hardly be considered a limiting range factor.

Illegal Hunting

Illegal hunting has in certain instances hastened the disappearance of a flock of turkeys

planted in a new area in an attempt to broaden the range. This also occasionally accounts for the disappearance of wild turkeys on small, outlying ridges within the turkey range. Such practices are, however, not of sufficient importance to be regarded as a definite range limiting factor.

Disease

Where wild turkeys come into contact with, or use the same range as, domesticated turkeys or other barnyard fowl outbreaks of various diseases frequently occur. It is, however, felt that since dangers of this type are equally common throughout the State, disease cannot be considered a limiting factor of the range.

The Chestnut Blight

The chestnut, once common to practically all the forested sections of Pennsylvania, undoubtedly formed an important part of the wild turkey's winter diet. Though the facts of the matter will probably never be known, it may

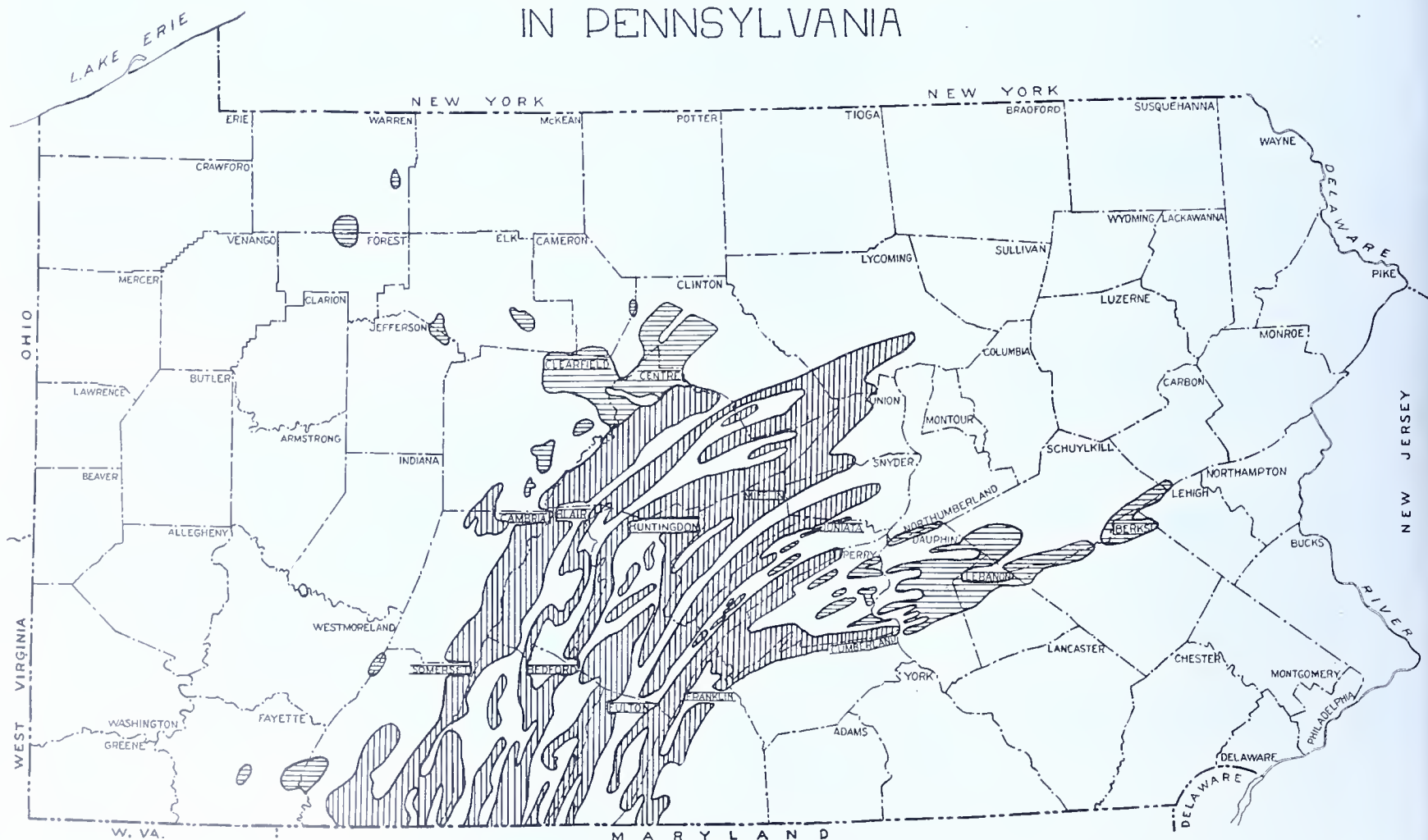
well be that the absence of the chestnut trees from the newly developing second growth forests of the northern part of the State plays a most important role in limiting the birds to the oak-pine forest type.

Conclusions

From the studies so far completed it appears that the present range of the wild turkey in Pennsylvania represents a decrease from the original range brought about largely by agricultural and lumbering activities involved in the development of a rich farming and industrial State, plus the loss of the former annual chestnut crop.

Finally, it seems that geology, topography and climate, which largely determine the development of plant life throughout the turkey range, tend to limit the extent of the range by allowing for the production of suitable winter food and cover supplies for the turkey.

THE RANGE OF THE WILD TURKEY IN PENNSYLVANIA



LEGEND: PRIMARY RANGE  SECONDARY RANGE 
(SEE TEXT FOR EXPLANATION)

PICTURE STORY OF THE GAME COMMISSION'S SPRING PLANTING PROGRAM. PHOTOS SHOW YOUNG TREES BEING PREPARED FOR SHIPMENT FROM THE COMMISSION'S NURSERY AT BEAVERTOWN. THE NURSERY IS SUPERVISED BY GAME PROTECTOR CLARENCE WALKER.—Photos by Seth Gordon.



1. Examining budded apple trees in nursery.
2. NYA boys lifting asiatic chestnut.
3. Thousands of budded apple trees in nursery.

4. Trees arriving by express at destination.
5. 50,000 chestnut trees in temporary storage awaiting shipment.
6. NYA boys lifting and shipping chestnut trees.



7. Packing chestnut trees for shipment in moisture-proof paper.
8. Hauling a load of trees from nursery to packing house.





Fig. 1. Standing hand-picked cornfield with dense undergrowth of food-producing weeds.



Fig. 2. Standing cornfield after 15-inch snowfall —food is still available.

MANAGEMENT RINGNECK IN EARLY

EDITOR'S NOTE: Paper No. 3 from the Pennsylvania Cooperative Wildlife Research Unit. The Pennsylvania State College and the Pennsylvania Game Commission, cooperating with the U. S. Bureau of Biological Survey.

Authorized for publication on May 8, 1939 as Paper No. 903 in the journal series of the Pennsylvania Agricultural Experiment Station.

WITHIN the past twenty-five years the ringneck pheasant (*Phasianus colchicus torquatus*) has become one of the most popular game birds in the Commonwealth of Pennsylvania, and the management of this bird has become one of the important activities of the Game Commission. For the purpose of securing data which would aid in the management of this species, a study of the ecology and management of the pheasant was undertaken by the Pennsylvania Cooperative Wildlife Research Unit.

Since winter is a most critical time for upland game birds in the northeast, as much information as possible was gathered during the winter in a study of the factors which affected the welfare of the birds. Some of the results of this investigation are briefly presented in this article. This paper covers the period from the end of the 1938 small game season (November 26) until early February 1939. The late winter and early spring studies will be reported upon in the future.

This research was pursued under the direction of Dr. Logan J. Bennett, Biologist, U. S. Bureau of Biological Survey, and Dr. P. F. English, Assistant Professor of Zoology, The Pennsylvania State College.

The area chosen for the research work was a 1,675-acre tract located in Lower Macungie Township, Lehigh County. This is in the heart of the finest pheasant range in the Commonwealth (Gerstell, 1934). The data secured here were supplemented by observations in other parts of the pheasant range.

The 1,675-acre study tract divides quite naturally into two homogeneous smaller blocks of 825 and 850 acres. These are referred to as the Brookside Area and the Spring Creek Area, respectively. They differ slightly as to crops, amount of hedgerows, waste land, etc.

The gently rolling farmland is planted in wheat, oats, barley, corn, potatoes, and alfalfa. On many farms a three-crop rotation is followed: potatoes, wheat, and corn. In other places this rotation is varied to include oats or barley and alfalfa. Only a small number of livestock (except pigs) are kept on the farms, and thus a minimum percentage of the land is in pasture.

A very careful analysis was made of the winter food and cover on the study area. Table I presents the acreage and the percentage of the total land area occupied by each type of cover on the Lehigh County area during the winter of 1938-1939.

TABLE 1.—Winter cover 1938-1939

Type of cover	Brookside Number of acres	Area % of total	Spring Creek Number of acres	Area % of total
Small grains (fall sown)	331	40.1	213	25.1
Plowed fields	140	16.9	68	8.0
Mown grain stubble	76	9.2	95½	11.2
Weedy grain stubble	91	11.0	117	13.7
Alfalfa	67½	8.2	36	4.2
Corn (machine-picked)	85	10.3	57	6.7
Corn (hand-picked)	12	1.5	120	14.1
Corn (shocked) .....	...	...	50	5.9
Pasture	3	0.4	16	1.9
Sweet clover .....	...	...	5	0.6
Orchard .....	...	...	7	0.8
Conifer plantation	1	0.1	3	0.4
Waste	6½	0.8	43½	5.1
Buildings	12	1.5	19	2.2
	825	100.0	850	99.9

An examination of Table 1 reveals that weedy grain stubblefields, hand-picked standing cornfields, conifer plantations, waste land, and hedgerows were the chief sources of cover for the pheasants during the winter weather. The stubblefields, with their rank growth of food-producing weeds, were the favored roosting sites of the pheasants



Fig. 4. Cornfield after picking with mechanical corn-picker.

OF THE PHEASANT WINTER

By **PIERCE E. RANDALL**
Department of Zoology and
Entomology
The Pennsylvania State College



Fig. 3. Corn fed upon by pheasants during snowy period.



Fig. 6. The ideal winter habitat—a standing corn-field surrounded by thick fencerows.

during the fall. However, these fields drifted full during each heavy snowstorm and became unavailable for cover when needed most. During the snowy weather of late January only 19 birds out of 209 residing on the area roosted in stubblefields (91 birds moved off the area from December 2, 1938, to February 1, 1939).

When the grain stubblefields were no longer available for roosting purposes, the pheasants roosted in woody thickets along streams, brushy waste land, thick fencerows, ungrazed woodlots, standing cornfields, and occasionally in trees. During cold windstorms they often sought shelter on the leeward side of banks or large trees. The usual roosting places of the pheasants residing on the study area during snowy weather are summarized in Table 2.

The chief food of the ringneck pheasant during winter is corn, and the major source of this food is in the standing hand-picked cornfields (see figure 1). When corn is hand-picked, from 3 to 5 percent of the ears are left on the stalks. This waste grain is available when it is needed most, namely, when the ground is covered with snow (see figures 2 and 3). Within the past few years the mechanical corn-picker has been introduced into eastern Pennsylvania. This machine picks the ears and breaks off the stalks about a foot above the ground (see figure 4). At least 5 percent of the corn is left in the field when this method of harvesting is used. However, the corn in these machine-picked fields becomes unavailable when it is buried beneath the snow (see figure 5).

The standing cornfields usually contain several other choice food-

TABLE 2.—Pheasant roosting sites during severe winter weather, January 13

Type of cover	Number of birds	Percent of total
Thickets along streams	82	29.3
Brushy mine pits and waste land	67	23.9
Hedgerows	44	15.7
Standing corn	40	14.3
Stubblefields	19	6.8
Conifer plantations	17	6.1
Orchards	11	3.9
	280	100.0

producing plants, such as lesser ragweed, yellow foxtail, smartweed, bur marigold, and others (see figure 1). Bennett and English (1939) found that during the late fall corn was the most important pheasant food, with lesser ragweed second. The author's observations indicate that these same foods are the most important throughout the entire winter.

In addition to providing food, the standing cornfields are used for roosting cover and are the favorite loafing spots for the birds throughout the winter. Every flock of pheasants residing on the study area had a standing cornfield within its cruising radius.

There is good reason to believe that standing cornfields determine to a large extent the number of pheasants that an area in Pennsylvania will winter. For example, during the fall both the Brookside and the Spring Creek Area supported pheasant populations in excess of 1 bird per 2 acres. The kill on the two areas was nearly equal, and at the end of the hunting season the populations of the two areas were still similar. However, after the snowstorm of late November 1938, many birds migrated from the Brookside to the Spring Creek Area. By December 2, about 240 pheasants were residing on the Spring Creek Area, while only 60 remained on the Brookside Area. On February 1, the Spring Creek Area still supported 184 pheasants—a population of 1 bird per 4.5 acres. At this date only 25 pheasants remained on the Brookside Area—a population of 1 bird per 34 acres. The ratio of the superiority of the Spring Creek Area as pheasant range on the 1st of February was 7 to 1.

(Continued on Page 30)



Fig. 5. Machine-picked cornfield in winter.

VALUE OF THE TRAPPER

By S. V. SEDLAK



Dauphin county trappers with first catch of season.

SOUND game management necessitates the use of the trapper. The natural order of things is too unbalanced and therefore any move designed to abolish the use of the steel trap would, if put into practice, in the course of time pave the way to serious consequences.

The steel trap is as necessary in the pursuit of fur-bearing animals, which include predators, as is the gun to the hunter, and the hook and line to the fisherman. Both the hunter and the fisherman are measurably dependent on the trapper. The trapper, nevertheless, feels the untoward attitude of his many unfair critics. Among these are hunters and fishermen, but not the rank and file that make up the outdoor-spirited body; no, but rather individuals and small groups of so-called sportsmen who are, as a matter of fact, self-seekers.

These people are disguised even under such banners as anti-steel trap league, humane association, and the like, because they are interested in their own products and in their own welfare. There are too, of course, some racoon, fox and game hunters who do belong in the same category. Their arguments against the steel trap are purely mythical. However, there does remain some room for debate on the handling of the steel trap. Yet well experienced hands at the game have overcome the many trials and tribulations of trap-setting to a degree where game animals are seldom caught and only very rarely a hunting dog trapped; and that takes in, of course, the height of the small game season.

Sportsmen friends, the science of trapping is an old science. It is a real man's game, and he who masters the use of the steel trap is a clever fellow, indeed! The writer knows of several men who, after hearing of easy money to be made on trap-lines, decided to give it a try themselves. They made a valiant effort to reap a collection of fine, silky furs from the fur world but, unfortunately, success did not come up to their expectations; and after a lot of fuss, muss and "cuss," these fellows gave it up as a bad job. They retired from the game, admitted defeat; their dreams of riches faded away and they sought other work to provide them with bread and butter.

The science of trapping cannot be learned over night; it cannot be learned in one year. It takes several years to learn to know what

it is all about, and only persistent fighters have acquired the knowledge of application to measurable success. Therefore, please be informed that the trapper knows several thousand facts about wildlife because he must know them and, furthermore, please be informed that because of that fact the trapper is the cog upon which true conservation of game must depend.

Nothing is quite so nauseating as hearing a sportsman preaching a gospel of fallacy. It burns the understanding woodsman when he reads in a newspaper or magazine a resolution by so and so in favor of something that would be detrimental and tend to further break up the natural order of wildlife. In the twenty years of my trapping experiences I have made a special effort to learn wildlife ecology and, gentlemen of the hunting fraternity, if you will only be patient the inter-related story which I have to tell you will help to educate you to better understand wild animal life. It may contain some things that may be hard for you to swallow, but above all else it will be based on facts, the truth.

At this time I desire to tell you that you have, perhaps, grossly underestimated the value of the trapper. It is to be admitted, however, that you have, as the majority, been conscious of the fact that the use of the steel trap has its commendable points, because you have not submitted to the desires of reactionary forces as has been the case in certain states. And because the value of anything is governed by dollars and cents, let us use that as the basis of value on the trapper. In this Commonwealth a wild rabbit is valued at \$2.00 I think, but to be even more conservative let us say 50 cents. Each imported rabbit for stocking purposes costs considerably more when all overheads are included in the price. Now then, you have admitted that foxes and weasels are predatory animals because you have placed them under the caption of "vermin." But you did not stop with just that, you willingly placed a bounty on these animals as an incentive to have them destroyed. Then again, when a few years ago the bounty was withdrawn from the red fox, certain counties placed a bounty on them because the sportsmen of these counties desired to continue to further control the red fox. The rabbit then, in your estimation, is worth more to you than any fox or weasel. Game Commission reports disclose that 80,843 weasels, 9,790 gray foxes and 5,115 red foxes, or a total of 95,748 of these predators were killed during the fiscal year of 1936-37; that 29,200 weasels, 9,919 gray foxes and 4,334 red foxes, or a total of 42,453 predators were killed during the last fiscal year, 1937-38, and this was, as the figures show, a lean year. Taking that lean year into calculation, and if each fox and each weasel would have killed one rabbit during each week of that year, a total of 2,207,556 rabbits would, *theoretically speaking*, have been destroyed.

Now, of course, the trappers did not kill all of these foxes and weasels. No definite division figures as to methods employed are available, so we may assume that ten per cent of the total kill of those animals was made by fox hunters and others, and by farmers for protection of personal property. That would still mean that the trappers alone saved you many thousands of dollars worth of rabbits. This figure could be boosted considerably more in our calculation if we included all of the other small game that was saved for you.

I think that you will agree that I have made an illustration which is quite reasonable. Then, if I would include all of the other predators of rabbits into my calculation of saving, the total amount of dollars in rabbits saved by the trappers would go much higher.

And yet some of you went on record as favouring a would-be injustice to yourself by casting your vote to prohibit the use of steel traps before December. So absurd! Logically speaking, the steel trap ought to come into its own about the middle of October for land animals, and the first of November would not be too early for water animals; except that muskrats, beavers and otters, due to the fact that they prime late in the winter, should really be legitimate quarry about the first of February.

THE ARTIFICIAL PROPAGATION OF RUFFED GROUSE

(Continued from last month)

By C. B. LEHMER

THE year 1931 in New York State marked the start of the most extensive grouse raising experiments ever attempted. Two stations were established, one at Cornell University under Dr. Allen to continue and expand his experiments with raising grouse entirely on wire, and the other the Catskill Station near Harvard under the direction of Gardiner Bump, his experiments to deal more with the raising of grouse on the ground. In this way they would have a means of comparing the results of the two methods of rearing the birds. The end of 1931 saw 101 grouse raised to maturity between the two stations. The Catskill Station raising 44 out of 197 eggs set or 24% of the hatch, and the Ithaca Station raising 57 out of 138 eggs or 45% of those hatched. In 1932 Dr. Allen reported raising 51 out of 63 eggs hatched or 81%. Surely the answer has been found to the successful rearing of grouse, was the optimistic thought. At this time he listed the factors to be considered in the order of their importance as follows: First and foremost; sanitation—complete protection from all poultry and from the droppings of each other; next to sanitation comes sufficient heat and circulation of air without drafts. The third important factor is sunlight, and fourth in importance is food. He considered fly larvae to be essential to young grouse, believing that they contain some vitamin necessary to normal development and I am not sure that he does not still believe this.

Gardiner Bump in commenting on the results of the 1932 experiments says, "the rearing of grouse in captivity and on a large scale is apparently a practical proposition." Little did he realize that there were other factors which were to assume mammoth proportions and prevent the rearing of grouse in the large numbers that he anticipated. Successful raising of hatched birds was not the answer to the raising of grouse in large numbers. It was, of course, a necessary part of the system, but there were still two factors which were soon to be recognized as limiting factors in the large scale and production of these birds. These turned out to be egg production in large numbers and the securing of a high percent of fertile eggs. A review of the work done by Gardiner Bump and Dr. Allen on these two factors will tend to make an understanding of them more apparent.

In 1933 Dr. Allen determined that a breeding ratio of one cock to five hens may be maintained with perfect safety providing each cock is in the proper stage of the mating cycle. Let us take a look at the more important facts learned by Dr. Allen about the breeding season behavior of this bird. After fifteen years of intensive study he is convinced that the ruffed grouse is not cognizant of sex as such, even during the breeding season, and that sex reactions are based primarily upon differences in size or vigor of individuals irrespective of sex. Although most of his observations were made on hand raised birds their actions checked with observations on wild birds and behavior was quite uniform among the birds. Without going into great detail the important conclusions as set forth by Dr. Allen are as follows:



The Ruffed Grouse offers the finest shooting of any of our game birds.

1. The female has an oestrus period when she is ready to mate. This lasts from less than a week before the laying of the first egg to about three days before the laying of the last one.

2. When not actually in oestrus, a female is oblivious to sex and attempts to dominate weaker birds just as does a male.

3. Male birds have quite as definite mating cycles as females which last varying periods of from two days to two weeks—possibly longer. Previous to this period and throughout the period, the males are oblivious to sex differences and do not differentiate between males and females even in mating. At all times they are very sensitive to differences in physical strength and apparently to "superiorisms" and "inferiorisms" in other birds. Variations in metabolism and in the degree of domination by other birds apparently radically affect the rate of development of the gonads and the time at which the male comes into his mating cycle; possibly also the duration of the cycle.

4. In order to produce fertile eggs there must be absolute synchronization of the two mating cycles, one fertilization perhaps lasting for as many as three eggs.

Of particular importance to the grouse raiser is the determining of when the birds are in the proper state of synchronization for success-

ful mating. According to Dr. Allen this point can be determined with no great difficulty, but it does require considerable work. When the females come into oestrus it could easily be determined by the characteristic crouching attitude they would assume when approached. With the males a little more care and a different method was used. As the females come into oestrus independently of males, so do the males. In other words the males could be held in individual pens and tested with a mounted grouse, the reaction indicating whether he was in suitable condition for mating. In fact it was observed that males who would not display when held in the company of other birds would, when the psychological restraint of stronger birds was removed, begin to display. If the offered stuffed grouse, irrespective of sex, when placed in the pens with males each morning was attacked, of course it was definitely known the bird was not ready for successful mating. However, if he attempted coition it was evident that he was in the proper cycle to mate with any female that happened to be in oestrus and could not dominate him. In the most successful experiment of this principle 96% fertility of eggs laid was attained. In this experiment six second-generation hand-raised females one-year old were placed in a pen where one male in the proper stage was kept at all times during the breeding season. Other combinations

(Continued on Page 31)

SO often, I have heard folks exclaim, "Look at that beautiful collie!" and all the time they were looking at my Irish setter dog Rusty. Many visitors have said, "That's a nice looking foxhound you have there," meaning my black and white pointer, a son of Champion Frank of Sunnyslawn, owned by Charlie Forrer of Ranna Villa, Camp Hill, Pa.

There are approximately 225 different pure breeds of dogs, of which the American Kennel club registers 109 breeds, classifying them into six different groups, the toy, terrier, non-sporting, working, hounds and sporting, the last two named, being the only ones we are interested in.

In the sporting group, there are 19 varieties, comprising retrievers, pointers, setters and spaniels; many of which are confused with other breeds. There are two distinct varieties of pointers, the typical American pointer and the new German Shorthair breed with its docked tail; perhaps we should also include the wirehaired pointing Griffon at this point. In the setter group we have the English, Irish and Gordon in the order of their popularity with the sportsman. The retriever group comprises the Chesapeake bay, which is a true American bred dog, the curly coated retriever, the flat coated, the golden and the labrador. In the spaniel group we find the Clumber, the Field spaniel, Welsh Springer, English Springer, Sussex, Irish Water and the Cocker, the latter seeming to be the favorite at this time. Last but not least we have the Brittany Spaniel, seemingly a cross between an English Setter and Springer Spaniel. This dog is not as yet very popular in the United States altho energetic and intelligent in appearance and used in field trials in France.

In the Sporting group we often find the pointer being mistaken for a foxhound; the Golden retriever for the Irish setter and in reverse; the English setter is often called the Llewellyn setter when there is no such breed as the Llewellyn, it being merely a strain of the English setter.

In the hound group we find 18 breeds, of which only six are popular with the sportsmen in Pennsylvania, namely the merrie little Beagle, which leads, followed in the order named by the American Foxhound, Basset hound, English Foxhound, Dachshund and the Bloodhound. The Harrier, Norwegian Elkhound, Otter Hound, Whippet, Russian Wolfhound, Greyhound, Irish Wolfhound, Saluki, Scottish Deerhound and Afghan hound are little known outside of the dog shows, altho several of these breeds are used for coursing the jackrabbit in some of our western states.

The Basset hound is oft times referred to by some as the bench leg beagle and the beagle is often confused with the harrier and the smaller of the English Foxhounds.

A visit to a dog show, the purchase of a dog book or the purchase of a picture chart of all breeds would avoid this confusion and misnaming of breeds.

Summer Dip for Dogs

Caring for your dog in the summertime seems to be a problem for many owners. However the matter is quite simple. If you want to keep your dog free of fleas, have it so clean that you won't see it scratch but rarely, comfortable in every way, with skin and coat healthy and glossy—all you have to do is use

YOUR DOG



"KNOW YOUR DOGS"

Edited by "DAVE" FISHER

the Pine Oil dip, latest discovery for his majesty the dog, doing away with old and messy sulphur and other chemical dips.

It is simple to use this dip. All you need is a large galvanized wash tub or wooden barrel, with a cover, to protect it from becoming diluted with rain and to keep out blowing leaves and other matter. This dip is harmless to the human skin, does not discolor the dog's coat, and a little goes a long way. After you have dipped your dog several times he will come to understand that it means comfort for him and will not mind it at all. Dipping the dog once or twice a week is sufficient. The Pine Oil can be procured most anywhere at this time and is mixed in the proportion of one part of the oil to 50 parts of water, altho you could apply it undiluted and find it absolutely harmless. This not only destroys all fleas and doggie odors but other insects, even the persistent ticks.

This mixture will preserve it's strength for about a month but because of spillage it is advisable to add a bit of water and proportionate pine oil at every dipping. Better results are had with soft water I am told, altho we are using hard water here with perfect results so far as we can see. There you have it. Use it and let me know how you like it.

Gun Shyness

Early in puppyhood is the right time to prevent gun shyness in your dog. As you enter the kennel or approach your dog, make noises, bang the feed pan, rattle the water bucket, strike the broom against the wall, bump the floor or wall with your foot and thus get him accustomed to all sorts of odd, unusual and sudden noises.

A .22 calibre gun can be fired at a little distance from the dog while eating, gradually approaching closer as he becomes accustomed to the noise, the master or owner holding and petting the dog.

Later a larger calibre pistol can be used and the action repeated. After this the master can go away leaving the dog tied. After several weeks of this, the dog can be permitted to

run loose as the firing is done, letting him smell the gun and see it at close range.

Of course, the best cure for gun shyness is to prevent it in the first place, and this prevention is had by starting in at an early age after full confidence of the dog has been gained by the master.

Up to the age of six months one can work on the puppy's stomach. His appetite is a great aid in the way of training. He will do most anything for the sake of food. However, I do not advise training other than for gun shyness and ordinary obedience such as to keep him quiet and have him come to you when called. Too many dogs are ruined by excessive training at too young an age. While it is true that some of them can "take it" there are many that cannot.

In the field, while the dog is under the excitement of chasing or flushing game is one of the best times to fire a gun over him. If possible, take him in the field with other dogs that are not gun shy.

Gun shyness is not hereditary but is caused by the owners of the dog themselves and many of them are made gun shy in trying to cure them of that very thing. If you get a new dog, don't take him out right away and shoot over him, get acquainted with him for a week or ten days, then take him out, let him get on game before you try him out. Make your dog love the gun and be ready to go when he sees you get it out and you'll have a much better dog.

Answers to Dog Questions

Question: Is there an American and an English Springer Spaniel?

M.B., Sunbury.

Answer: Yes, there are two types of the Springer Spaniel, one being known as the American type and the other known as the English type, altho both are registered simply as English Springer Spaniel.

* * *

Question: Is there a registered bureau for marking of dogs with a tattoo?

R.N., Pittston.

Answer: There are a number of clubs and associations who are following this practice. The Chase, Lexington, Ky. sell a single letter tattoo at 10¢ or complete sets at \$3.50 and \$5.50 and they register an assigned number. The Dog Protection Assn. Sunbury is also organized for this purpose. There is a move on foot to secure legislation along this line in our state.

* * *

Question: I own an Irish setter and a friend tells me that he is not true because his coat is curly.

S.B.T., Pittsburgh.

Answer: The standard, adopted by the Irish setter club, says about Coat "On the head, front of legs and tips of ears it should be short and fine, but on all other parts of the body it should be of moderate length, flat and free as possible from curl or wave." But, I wouldn't let that curl worry me if the dog is pure-bred and has a good nose and bird sense.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

KILLING THE NEIGHBOR'S CAT

Q. Is it lawful to shoot and kill neighbors' cats on your property if such cats have been killing birds when roosting and have been trying to capture pet chipmunks?

S.G.—Fox Chapel, Pittsburgh.

A. The common house cat has absolutely no protection in Pennsylvania and is not recognized by law as personal property. Any person may, therefore, kill a cat without fear of prosecution by the owner seeking to recover the value of the animal. However, all cities and towns have ordinances prohibiting the discharge of firearms within their limits and consent of the proper police authorities must be obtained before shooting cats in cities or boroughs. It is also unlawful for any person while hunting wild birds or animals to shoot within 150 yards of occupied buildings unless he has the consent of the occupants. This, under certain conditions, may apply to the cat hunter.

If you observe the above regulations, we see no objection to the humane killing of a stray house cat at any time. In fact, they are habitual destroyers of wildlife of a more beneficial character than the cat, and we have no reason to discourage the killing of all cats that are not properly fed or controlled.

* * *

HARBORING A CROW IN CAPTIVITY

Q. Are you permitted to harbor a crow or hold one in possession? Also, is there other game that may be held in possession?

M.K.—Monessen, Pa.

A. As the crow is not protected in Pennsylvania, there is no objection to keeping one in captivity at any time when lawfully captured. The only other birds and animals that may be held in confinement are those listed as unprotected, including the Blue Jay, English sparrow, European starling, kingfisher, great-horned owl, goshawk, sharp-shinned hawk, Cooper's hawk and snowy owl; the unprotected animals are foxes of all kinds, wild cats, weasels, porcupines and chipmunks. However, it is unlawful to release within this State any fox, wild cat, domestic cat or weasel brought into Pennsylvania from another State or raised in captivity.

None of the above creatures are game. The only game that may be held in possession when taken in a wild state is the raccoon. Permit can be obtained from the Game Commission to possess live raccoons taken legally in season; application must be made not later than five days after the close of the raccoon season.

PERSONS OVER TWELVE (12) YEARS OF AGE HUNTING WITHOUT LICENSE

Q. If you are over twelve (12) years of age, are you allowed to hunt without a license on your own property if you hunt according to law?

K.J.D.—Pittsburgh.

A. Any person, regardless of age, is permitted to hunt without a license on lands upon which he actually resides providing that person is a member of the family cultivating such lands. A boy or girl under sixteen (16) years of age must be accompanied by some member of his or her family over twenty-one (21) while hunting on lands adjoining those upon which that person resides, but one need not be so accompanied at that age while hunting on his own property.

* * *

FEEDING A CROW

Q. Will you kindly tell me in your "Sportsmen's Queries" what is the best diet for a full-grown crow?

B.F.E.—Pittsburgh.

A. A crow will eat almost any food, and you should therefore have very little trouble feeding one in captivity. My suggestion is that you feed it field corn, either whole or cracked, and vary the diet occasionally with meat, either raw or cooked. Crows have been fed successfully on bread and milk. You should always have a supply of grit available, as all birds require grit or sand to digest their food. Fresh water should also be kept available at all times.

* * *

TRAINING DOG ON CAPTIVE PHEASANT

Q. For the purpose of training my bird dog, I want to buy a live pheasant. Is it legal to take this pheasant, in a cage, to the fields to train my dog?

B.B.G.—Philadelphia.

A. During the closed training season, April 1 to August 20, it is strictly illegal to train your bird dog on a pheasant, even though you own the pheasant and do not release it in a wild state. If you desire to train your bird dog on a pheasant purchased from a legitimate source, it will be necessary for you to wait until August 20 to do so. The primary purpose of the closed season for dog training is to keep all dogs out of fields and forests during the period when beneficial wildlife is nesting and growing to maturity. Under no circumstances will the Game Commission issue a permit for training dogs on game birds in closed season, except that Field Trial permits may be issued April First to Fifteenth.

BOYS UNDER SIXTEEN (16) HUNTING WILD WATERFOWL

Q. I read in a Philadelphia newspaper that migratory waterfowl hunters over sixteen (16) are required by law to have a Duck Stamp. Please tell me what legal requirements are demanded of a boy under sixteen (16) years to hunt wild waterfowl in the State of Pennsylvania, also tell me if a boy under sixteen (16) accompanied by a licensed adult is required to possess a hunting license?

H.J.L.—Philadelphia.

A. A boy under sixteen (16) years of age who desires to hunt wild waterfowl in Pennsylvania is required to take out a hunter's license under the Game Law of this State. At that age, he must present a written request bearing the signature of his father or mother in order to purchase a hunter's license; and to use firearms for hunting, he is required to be accompanied by some member of his family twenty-one years of age or over unless the hunting is done on the premises upon which he lives.

There is nothing in the Game Law to exempt a person under sixteen (16) years from taking out a hunter's license, whether he is accompanied or not, unless he hunts upon his own home grounds or those immediately connected with same. You are correct in your understanding that a boy under sixteen (16) does not require a Federal Migratory Bird Hunting Stamp to hunt wild waterfowl, but a Pennsylvania hunter's license is necessary.

* * *

HUNTERS WEARING RED

Q. Is it a law that a deer hunter must have red cloth on his cap or clothes, or is this for safety only?

F.A.M.—Stevens, R. D. No. 1, Pa.

A. The wearing of red by hunters is not a legal requirement in Pennsylvania, but it is certainly a very good safety measure. In 1938, fifty (50) hunters were killed in this State, mainly through carelessness and mistaken identity. Statistics show that comparatively few of those who were injured or killed while hunting were wearing red of any kind, so that experience has clearly demonstrated that the wearing of red afield is very good insurance against being mistaken for game by another. It should be vigorously encouraged among all hunters.

FOX HUNTING NOTES

By W. N. ELY, Jr., M.F.H.

Recently the local paper of one of the counties in our hunting "country" brought out this interesting information:

"'Coyotes will eventually spread to your eastern farms,' or words to that effect, said John Preston, in 1910. He was born around 1830 in Plumstead township, Bucks county, but spent most of his life as a mid-western farmer around St. Joe, Mo. The accuracy of his prediction was proved on January 19, 1939, when a coyote was killed near Dilts Corner, Hunterdon county, N. J. For some time a pack of 'wild dogs' have annoyed farmers and poultry men in that locality. In October, 1938, Harold Horn of New Hope, took his fox hounds over there and an attempt was made to round them up. Unfortunately a native grey fox was in the same territory and the highly trained specialists took the line of the quarry they had been trained to hunt. A few weeks later a farm hand killed one of the pack. Shortly another drive was organized and three more were shot. Unfortunately none of these got into the hands of any one competent to give it a name. The consensus of opinion among the natives put them down as just dogs, probably with German Shepherd blood, gone wild. When this specimen was shot in January, Paul Niemeyer and Thomas McDowell, scientists from the New Jersey State Museum at Trenton, procured it and definitely identified it as a female coyote about one year of age. It is now in the hands of a taxidermist and will be added to the museum exhibit when mounted.

"Fred Streever, sportsman, author, and Kennel Editor of *National Sportsman*, has been running coyotes successfully with fox hounds in the foot hills of the Adirondacks, near Ballston Spa, N. Y. Their favorite cover up there Mr. Streever writes, is in the reforestation projects of that community. How many other sections in the East now support coyotes, close observation alone can answer. The 'wild dogs' of the Ramapo Hills have been notorious for a decade. Whether there is coyote blood intermixed is not known. A smaller pack, family history also unknown, is alleged to be raiding poultry lost adjacent to Kuser's Hill, at the Mercer-Hunterdon line along the Delaware. It is a well known fact that one or more outlaw dogs can do a lot of damage to sheep, turkeys, chickens, and ducks. It is believed coyotes are less destructive because they kill for food, while dogs 'gone native', destroy whole domestic flocks out of plain killing lust. Coyotes may be suspected when an evening chant is heard. The voice of the latter is similar to the howl of a lonesome dog, tied to his kennel, but higher in timbre.

"The specimen now in the hands of the Museum measured by tape: length, 38 inches; height at shoulder, 19 inches, girth, 19 inches; tail, 12 inches; weight 25 pounds. The tail probably is the most outstanding distinguishing feature for the layman's notice. It is round, heavily furred, instead of flat as in most dogs, and much shorter in proportion to body length.

Otherwise they might easily be mistaken by a careless observer for an undersized police dog. The greatest difficulty in identifying them in Hunterdon county was the disbelief the natives who saw them that they could be anything but just dogs. The first four shot were disposed of, before any one with sufficient knowledge had an opportunity to see them.

"In 1910, Mr. Preston's theory of distribution was simply that during his residence in Missouri they had adapted themselves to conditions following the country's farming development, and were increasing. The museum group believes that, they have been carried East as 'cute puppies' by tourists and discarded when grown, that they may have escaped from one or more of the numerous small zoos at amusement parks or gas stations and such. At any rate they are here. There is sufficient food and cover. They have proved an ability to live along with man and his control of environment, in similar climate. In habit they are somewhat similar to fox. Larger, and of necessity require more food. Some authorities declare they are wiser. They may make excellent sport ahead of hounds. Time alone will tell how they stack up as assets or liabilities in our wildlife accounts."

HUMMINGBIRDS. We happened to read a letter in *The Little Rock Gazette* which was as follows: "I would like to say a word in behalf of the fox hunters of Boone county in regard to an article in this column. I never thought the fox to be such a vicious animal and such a destructive pest to the farmers. In my locality the fox feed on field rats and mice and rabbits and is never compared with the hawks and owls by poultry raisers. Up here, the government hires men to catch and kill wolves; everybody wants them killed and are anxious to cooperate with government trappers in ridding the country of them. While I knew wolves would kill out the fox, I do not recall ever hearing anybody want to import or protect wolves in order to have them catch and kill the fox. I think fox hunting is one of the cleanest and most humane sports of all the hunting. The fox hunter does not go out with the intention of killing or butchering game. He does not want to catch the fox, he merely goes for the chase. Therefore he takes nothing from the state in value of fur or meat. He pays the license and taxes required by the state, and as far as 'helping feed the fox' is concerned they do their part, and as for laughing, the main reason is that they enjoy the chase and their conscience does not hurt them afterwards.

"Trappers of this state know why the fox is protected. They know that about 90% of them set traps in paths, roads, or wherever they prefer, catching dogs, hogs, and all kinds of domestic animals, breaking their legs and ruining their feet and often letting the animal remain in the trap until it dies from exposure. One dared not take his dog out for fear of

getting it crippled. If we killed and destroyed all the wild animals and birds for doing some little nibbling here and pecking there, we sure would be getting somewhere fast. This would be a fine land for sportsmen. I am thankful we have a soundminded bunch of gentlemen at Little Rock making and protecting laws for us. Last year I had quite a little trouble with the hummingbirds; they got into my garden and stuck their bills into everything that had a blossom on it. If they start it again this spring I intend to get me a flock of eagles to catch them.—A Fox Hunter."

DOCTOR'S PRESCRIPTION. A dear friend of my childhood was the late Dr. Ellzey and now his son, Jim, is following in his illustrious footsteps as a leading Chestnut Hill practitioner. Jim's grandfather, Dr. Murray Ellzey, was an M. F. H. and wrote an article called "The Fox Hound" in which he has this to say. "From an experience of thirty years in the medical profession, the writer is of the opinion that there are fifty delicate women who would be physically regenerated by horseback exercise to one who would be in the least degree injured by it." In the above I most whole heartedly concur, but have had no experience in the following suggestion of the doctor's. "The most remarkable exhibition of nose I have ever seen, hound, setter, pointer, or field spaniel were spayed bitches, . . . more patient to kennel discipline and less subject to disease. . . . Spay bitches at two months old; best time and the operation is simple and safe at this time. Spaying is not productive of the least tendency to obesity, even in old age." While such a procedure would unquestionably do away with a lot of annoyance and loss of time from hunting when in season, still I would hate to find that some outstanding bitch had been spayed and that I could never have any of her offspring to carry on.

To show how many of an offspring can carry on,—in fact a whole pack by one hound, a bulwark of my field recently sent me those notes by Cuthbert Bradley. "The first quarter of the 19th Century regarded as the golden age of fox hunting brought about many great changes for Squire Osbaldeston in a double mastership to the Quorn between 1817 and 1827, revolutionized the system of fox hunting. Hound were matched for speed and taught to disregard the pressure of horseman, quickness of decision being recognized as the life and soul of sport. No other hound in history has been so much bred to as Squire Osbaldeston's Furrier 1821, bred by Thomas Goosey at Belvoir, and drafted from the Duke of Rutland's kennel because he was not straight. An excitable hound in temperament the Squire declared him "the best he ever saw in the field" on many occasion taking out a whole pack by Furrier to hunt before a critical gathering."

BIRD BANDING

By HORACE GROSKIN

ON July 23, 1928, a young Arctic Tern, born on the Coast of Labrador, was taken from its nest and a small aluminum ring, with a number on it, was placed around its leg and then released. On November 14, 1928, three and one-half months later; this bird was found on the Southeast Coast of Africa, having travelled between eight and nine thousand miles in that short period.

On July 10, 1927, a Black-crowned Night Heron was banded at Avalon, N. J., by Horace D. McCann. Four months later, November 18, 1927, it was found dead in Cuba.

In August, 1928, a young Common Tern was banded at its nest in Massachusetts. Ten years later, on June 10, 1938, it returned and was recaptured at the place it was born.

Nearly three million birds in North America have had aluminum bands, with numbers on them, placed around their legs for the purpose of finding out where they go in their migrations, the routes they travel, the time consumed, their homing instinct, do they return to the same location year after year, how long do they live, and many other facts about their life histories.

Two thousand people all over this country are specially licensed by the United States Government to carry on scientific banding under the direction of the Biological Survey of Washington, D. C. The cooperators of the Biological Survey have established at their homes scientific banding stations, and a number of these are located in and around the city of Philadelphia. Horace Groskin, of Ardmore, Pa., established, on May 9, 1937, such a banding station at his home, which is adjacent to an extensive woodland, making is an ideal place for research investigation through the banding method. Mr. Groskin has already placed bands on over eleven hundred birds, comprising 35 different species.

The species banded in the largest numbers were 234 White-throated Sparrows, 180 Slate-colored Juncos, and 110 Purple Finches. These species come from the north and spend the winter with us in this location. He also banded 60 Song Sparrows, 56 Robins, 48 Catbirds, 43 Cardinals, 39 Purple Grackles, 33 Blue Jays, etc., etc. Over a thousand birds came back to his traps soon after they had been banded, constituting what is known as "repeats", and 45 birds came back after they had migrated and had been absent from the station for more than three months. A few of the birds that came back to Mr. Groskin's station are as follows:

The first bird banded at the Station was a Song Sparrow banded May 9, 1937; it returned to the station the following year on March 8, 1938. Then a Mourning Dove, banded May 12, 1937, which returned April 9, 1938; a Brown Thrasher, banded July 23, 1937, returned May 3, 1938; a Catbird, banded May 9, 1937, returned May 19, 1938; a White-throated Sparrow, banded November 8, 1937, returned November 9, 1938; and a Slate-colored Junco, banded November 9, 1937, returned November 8, 1938.

A Wood Thrush banded by Mr. Groskin, at Ardmore, July 17, 1937, was retaken by H. F. West, Narberth, Pa., on September 3,



Tufted Titmouse at suet counter.

1938. During its absence it had travelled and spent the winter at least as far south as Southern Mexico, according to its known winter range, and then returned north in the spring to the neighborhood of Ardmore, where it had been banded the year before.

Mr. Groskin has in operation 10 traps specially made to capture different types of birds and so constructed as to protect the birds against injury or their enemies. Every precaution possible is taken in handling the birds and the very fact that many of them return to the traps 5 to 10 minutes after being banded indicates that they are not unduly frightened by their experience. Some birds even repeat 15 or 25 times and some individuals come back to the traps 4 to 5 times a day to get the food that is used as bait.

Every bird captured and banded is registered in the station record and is reported to the Biological Survey, giving the number of the band, location, the date of capture, the species, age and sex. The wing measurement also is

taken in millimeters with dividers, and notes are made of the differences of plumages between young and adult, male and female.

Should a bird be captured that had already been banded by another cooperator a record is immediately made of the number, species, date and location and sent at once to Washington, D. C., where it is checked, disclosing where and by whom it was banded and at what date. This information is then forwarded to the bander who recaptures the bird. It is of utmost importance that anyone finding a bird dead or alive, with an aluminum band on its leg, should report the number of the band, date and location, to the Biological Survey. They will find their reward in learning where the bird came from and at the same time will know they have made some contribution toward broadening the general knowledge about the migration of our wild birds.

Since the middle of February, 1939, Mr. Groskin has banded 1,114 Purple Finches, and associated with these Finches were Pine Siskins which he also banded to the extent of 136 which is very unusual.

In his banding of Purple Finches during April he also recovered a number of birds from other banders' stations; one from Sault Ste. Marie, Northern Michigan, banded by Mr. M. J. Magee, May 22, 1938; a Purple Finch banded by Robert Allison at Athol, Mass., one banded at Belmont, Mass., by S. D. Robbins; two by Mr. H. P. Baily, one on August 11, 1935, at Northeast Harbor, Maine, and recovered by Mr. Groskin at Ardmore, March 23, 1939, the other on August 9, 1937, at Northeast Harbor, Maine, and recovered by Mr. Groskin at Ardmore April 15, 1939; (the interesting feature of this is the fact that Mr. Baily, who banded these birds, did so at his summer place at Northeast Harbor, Maine, and that these birds should be recovered at Ardmore, Pa., within a couple of miles of Mr. Bailey's permanent residence at Overbrook, Pa.); and several that had been banded by other banders in this section of Pennsylvania.



Robin at nest.



A fox sparrow's leg is encircled by a numbered aluminum band, which Mr. Groskin joins loosely with pliers.



His wing is measured in millimeters with dividers. Wild birds are seasoned travelers. One was known to go 3000 miles in three and a half months!

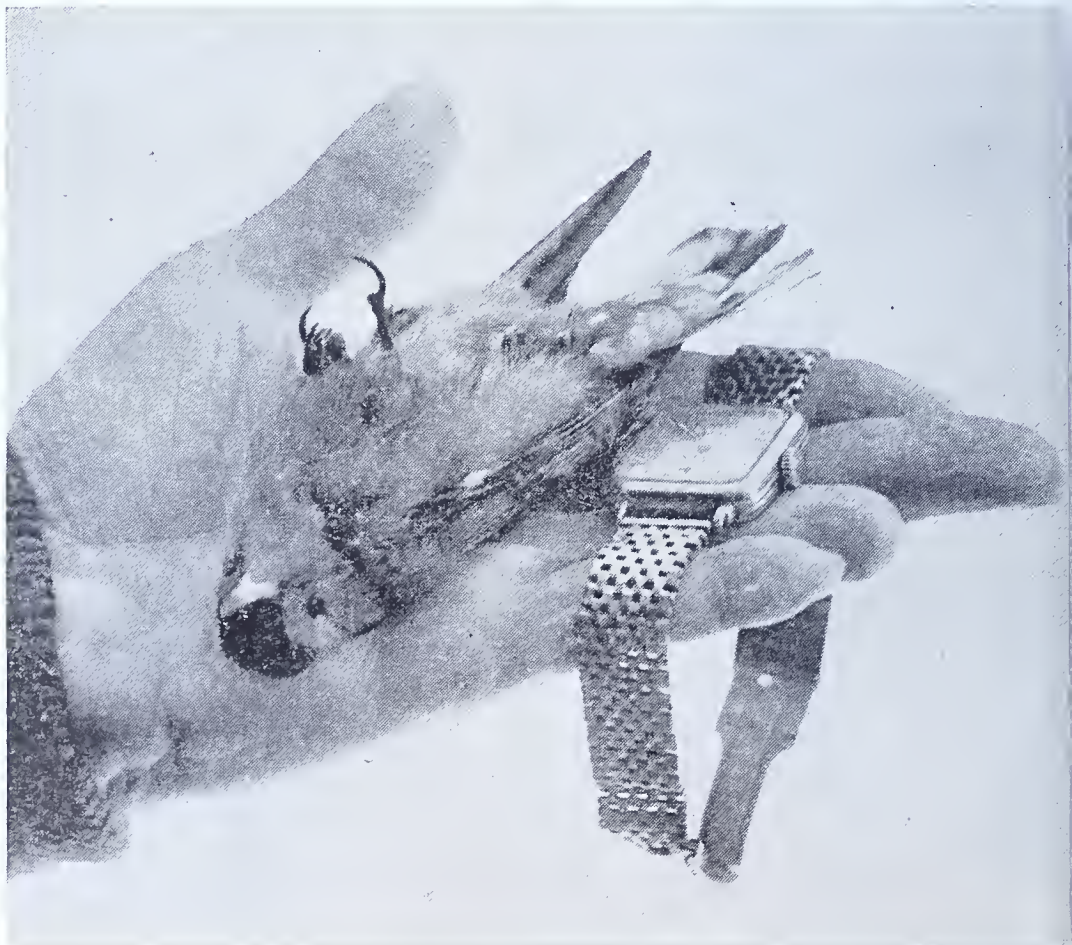


A snow bird returns to a trap, although has already been banded and released. Many return 15 to 20 times and may finally be taken to a distance and released.

WAR BIRDS: HOW UNCLE SAM'S

Keeping a check on the migration of wild birds is one of the jobs of the War Relocation Authority. When insect-killers are caught, banded, inspected and then released, their routes, habits and condition are determined. Horace

Mr. Groskin holds a bird lightly between the first two fingers of his hand. He is an experienced naturalist and notes the type, plumage, size of the bird in his book. The data then goes to the Biological Survey, Washington, D. C., where it is kept in permanent file for future reference.



A White-breasted Nuthatch has lost his balance and doesn't know how to find it! Only his tiny, beadlike eyes move briskly from side to side. Though he is an extremely wild bird, he has lain in Mr. Groskin's hand for five minutes. With a little shove, he will scramble up and fly away.



the swiftness of the camera catches a remarkable picture as a White-throated Sparrow flies from its captor's hands. Only licensed co-operators may trap wild birds.



The method used in holding a live bird so as not to injure him. The Junco, or Snowbird, shows his band.



Showing the numbers on the White-throated Sparrow's band. That helps to solve the migration mystery.

ST'S AID THE FLYING ARMY OF PEST-KILLERS

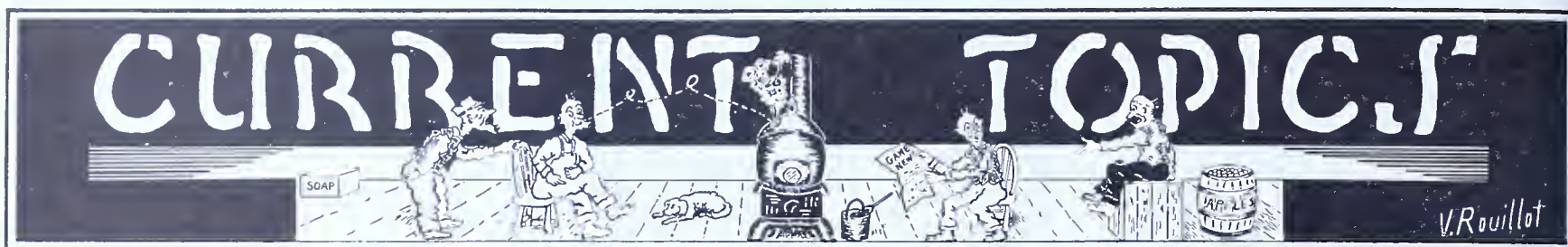
known functions of the U. S. Government. The valuable scientific banding stations all over the country. Thus Government co-operator in Ardmore, Pa., is pictured at work.



Taking a bird from the trap for banding. Knowing how properly to handle the feathery creatures so no injury befalls them is one of the secrets of successful bird banding. Mr. Groskin handles his little temporary guests as if they were delicate china.

A "gathering" cage is attached to the side of the water trap. This snare is the most popular with the feathered tourists who visit the region in winter. Birds generally drink only "live" or agitated water, which the dripping bucket provides. Captured birds are not harmed. They are confined for only one hour and are well fed.





FEDERAL AID

The second Pennsylvania Game Commission's land acquisition project under the Pittman-Robertson Federal Aid in Wildlife Restoration Act was approved by the Biological Survey on May 9, 1939. It provides for the purchase of six farms, containing 716.1 acres, in Upper Mifflin Township, Cumberland County, located between the Conodoguinet Creek and the "all-weather" highway under construction by the Pennsylvania Turnpike Commission.

Three-fourths of the cost will ultimately be paid from Federal funds and the other fourth by the Game Commission. It is expected that this project will consume the balance of Pennsylvania's apportionment of \$46,025.99 of Federal Aid in Wildlife Restoration Funds for the fiscal year 1938-1939.

A survey of the boundary lines of the six farms covered by the project has been completed, and the examination of the titles will probably be completed by the middle of June.

The first Pennsylvania project was approved September 28, 1938 and provides for an economic survey and general inventory of native fur-bearers. This State's second project provides for the cooperative purchase of sixteen tracts estimated to contain 9,044.7 acres, located in nine counties of the State. It was approved February 2, 1939.

Title is now vested in the Commonwealth for three of the sixteen tracts provided for in the first project, and boundary line surveys have been completed for all but one of the sixteen tracts. In addition to the three tracts for which titles have been secured, title abstracts have been completed for nine others. The examination of title has not yet been started for three of these tracts.

In the March Service Bulletin, the resignation of Refuge Keeper William F. Mason, to become effective May 1, 1939, was announced.

When Mr. Mason's resignation was considered by the Commission at its meeting April 12, the Members decided not to accept it. We are, therefore, happy to announce that Mr. Mason will continue in the service.

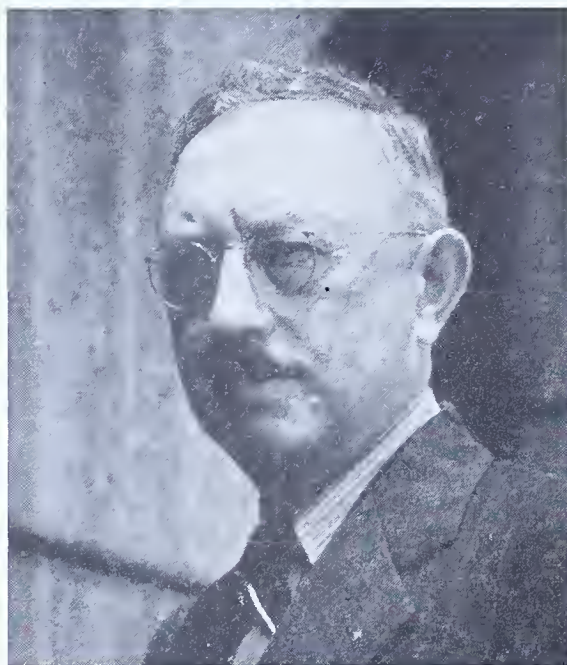
During the month of April agreements were secured for the hunting privileges on farms adjoining six Cooperative Farm-Game Projects, and for one new project in Adams County. These new agreements cover 4,900 acres of farm land.

Approximately 60 additional specimens of wild waterfowl will be added to the exhibits of the Pymatuning Museum during May.

Game Prosecutions for April numbered 101 and penalties collected totalled \$2,918.30. One of the unusual prosecutions in April occurred in Berks County where a man paid a fine of \$25.00 for releasing a fox reared in captivity.

NEW BULLETIN

The Commission at its meeting on May 31 authorized the distribution, free of charge, to all Secretaries of Sportsmen's Clubs, a copy of the new 48 page wildlife bulletin in color, providing a determined effort was made to promote its sale among members, schools, Scouts, etc. The bulletin has already received much favorable comment and the Commission wishes to distribute it as widely as possible.



JOHN J. SLAUTTERBACK

John J. Slautterback, former Secretary of the Game Commission, who left the service July 1, 1931, later to become affiliated with wildlife conservation work in New York, was recently appointed by the Commission to supervise game land management work in Division C and Division B comprising Susquehanna, Wayne, Wyoming, Lackawanna, Luzerne, Pike, Monroe, Carbon and Schuylkill Counties. Mr. Slautterback began his career with the Game Commission June 1, 1915, at a time when game protection was the primary activity and when it was not unusual to travel long distances on horseback to apprehend violators. Later he became a Traveling Game Protector, and still later was made Chief of the Commission's Bureau of Vermin Control, a position he held until he was made Secretary January 1, 1929. Very few men in the country know the wildlife game any better than Mr. Slautterback, who is both an ardent hunter and fisherman as well as a good woodsman and camper. He will be a very valuable addition to the Commission in its new game food and cover development program.

BOYS WARNED

Boys who own .22 caliber or air rifles are warned to choose targets other than wildlife or song birds protected by the Commonwealth. Years ago the lad with a .22 or air rifle constituted a real menace not only to wildlife or song birds but to people as well, but of late years due to the fact that the Game Law and conservation in general have been taught in the public schools and elsewhere this practice has been discontinued almost altogether. In the spring, however, boys like to take out the firearms which they received as Christmas presents and try them out, and while the Game Commission is sympathetic toward teaching young men to properly handle guns it does not encourage the improper handling nor the improper use of such weapons.

Hunting chucks and fine rifles are as closely related as soles and heels of a pair of shoes. And fine rifles, particularly near perfect barrels, are synonymous with Harry Pope. This 80-year-old master craftsman has been turning out custom barrels for almost all of his 80 years.

Pope makes the barrels by hand. As this process is slow the Pope built barrels are few compared with factory jobs. Yet sportsmen who demand a barrel that will group bullets unbelievably close often wait six months to a year for Pope to make them one.

One of his barrels, fired from a machine rest, put 50 bullets in a group that could be covered with the wad from a .38-calibre cartridge. Try to match that with a factory job. As Fibber McGee says: "It ain't done."

Excellent work has been a constant annoyance to Pope. Lovers of fine rifles brave his cantankerous disposition in attempts to get their name on his list. The demand is so great that Pope is in virtual retirement, threatening to shoot the first customer or outdoors writer who reveals his address.

If you have an order in for one of his barrels, and are calling to inquire how soon it will be ready, this gray-beard will point to a sign on a grimy wall at his shop.

The sign says: "Take your work when well done or take it elsewhere. No delivery promised. If you must know when your barrel will be ready the answer is 'now.' Take your work away. I don't want it. I'm tired. I refuse longer to be worried by promises that circumstances will not permit me to keep."

Someone not knowing of the near perfect barrels Pope turns out will wonder how someone as crabby as that gets any work at all.

The answer is he is the acknowledged master of an ancient craft that is rapidly disappearing. He really has built a "better mouse-trap" than anyone else and the gun-world is still trying to batter its way into his shop. But it's a tough job.—Gilson Davis, Pa. Game Comm.

CURRENT TOPICS

Warren F. Simrell, Jr., son of Warren F. Simrell, for many years head of the bounty division of the Game Commission, wrote Seth Gordon the other day about the shooting seasons in Chile. Among other things he said that the duck shooting is splendid, yet very tough, possibly due to the high altitude—12,000 feet above sea level. He said the boys down there are their own retrievers and when one has retrieved twenty or thirty ducks apiece the birds begin to weigh as much as a six point duck.

He says that 16 and 20 gauge shotguns are the favorites. Due to the rarified air the smaller gauges have the killing power and far greater distance than a 12 gauge at sea level. A friend of his killed a fox at ninety yards with a 20 gauge and had his engineer's tape along to prove the distance. The Indians and the foxes are the real enemies of the ducks, both living on the birds and their eggs the year around.

Members of the rifle fraternity all over the country are mourning the passing of Doctor Ellis E. W. Given (Doc Given) on May 11, and his funeral a few days later witnessed an outpouring of nearly all the important riflemen in southeastern Pennsylvania.

Celebrated in medical surgery and famous as a sportsman and military surgeon Dr. Given enjoyed one of the most diversified and interesting of careers and made for himself a host of friends all over the country.

A colonel in the military he traced his ancestry back to Scotch gentry on one hand and to the Indian Princess Pocohontas on the other. Riflemen knew him as one of the greatest woodchuck hunters of his day and by his fame as a ballistic expert and photographer. He is probably the only man of record, who, within a few feet, and by the aid of a spotting telescope, recorded medically exactly what occurs when a 4,000 f.s. bullet strikes the woodchuck. Given would stalk the animals to within a few yards, then Schnerring would shoot them. Given determined for instance, that liquids from the body drive back from the animal *toward* the shooter, as well as later, in the direction of the flight of the bullet, before the animal has time to bleed externally, and even on a brain shot.

IMPORTANT NOTICE!

Effective September 1, 1939 all individual out of state subscriptions to GAME NEWS will be increased to \$1.00 per year. There will be no change in the club rate or single copy price. This action was taken by the Game Commission at its meeting May 31, 1939.



Some farmers do not go to the trouble of planting their old worm fences; consequently very little wildlife is attracted.



Here is a typical upgrown stake-on-rider fence with abundant food and cover for wildlife.



Orchard prunings piled up make ideal hiding place for rabbits and other small game. Note the large piles in the center of the picture.

CURRENT TOPICS

COMMISSION ACQUIRES FINE BLOCK OF GAME LANDS

An unusually desirable block of State Game Lands was secured by the Game Commission when the purchase of 7,241.3 acres in Wayne County, Pennsylvania was consummated recently. This acreage is located in Lebanon, Dyberry and Mount Pleasant Townships, about eight miles north of Honesdale, the County Seat of Wayne County, and only about 30 miles from Scranton. It is easily accessible from all directions by good roads.

Following is a list of the tracts which comprised the purchase:

Grantor	Acreage
Tanners Falls Development Company	6,557.6
R. B. Henderson	204.8
David D. Gager	50.5
G. D. Gager	72.1
R. J. Stiles	71.4
Pearl G. Shuman	222.8
Pearl G. Shuman	62.1
Total	7,241.3

This acquisition is now officially known as State Game Lands No. 159. Most of the area is wooded, and recent cuttings have made game food and cover conditions very good. Deer, ruffed grouse, and rabbits are reasonably abundant, and several other species of lesser importance are not uncommon.

The area is unusually well watered. Good trout streams, including the East and West branches of Dyberry Creek and tributaries thereto, total 12.7 miles. In addition there are five ponds and dams, the names and acreage of which follow:

Lower Woods Pond	29 Acres
Upper Woods Pond	105 Acres
Alder Marsh Pond	19 Acres
Lower Dam	4 Acres
Old Mill Dam	3 Acres

The Delaware and Hudson Railroad Company at one time acquired practically all water rights within this area for the purpose of supplying water for the old and long abandoned Delaware and Hudson Canal. The water level

in the Lower Woods Pond had been raised eight or ten feet through the construction of a dam many years ago. It is thought that the old dam can be repaired at comparatively little expense, and thus increase the area of water to about 70 acres.

This block of State Game Lands is more or less unusual because it contains so large a mileage of streams. In some instances the boundary lines parallel the streams, taking in a strip of land only 200 feet wide, one hundred feet on either side of the center line of the stream. In consequence, the mileage of boundary lines is also unusual. They total 47 miles which is much more than customary for an acreage of similar size. The unfortunate result is that a somewhat larger annual expenditure will be required to keep the boundary lines open, marked, and blazes painted.

The Commission expects to establish two or three small sized game refuges within the area purchased, but the total of the refuges will probably not exceed 800 acres. The remaining portion of the 7,241 acres will be open to legal hunting and fishing.

Since last reported in the June 1939 issue of the GAME NEWS, the Commission secured title to the following tracts of land in other sections of the State, as follows:

Bucks County: Two tracts containing 12.8 Acres. They became part of State Game Lands No. 157, now totalling 740.4 acres.

Cambria County: A tract containing 334.5 acres acquired from the County Commissioners. This tract became part of State Game Lands No. 120, located in Clearfield and Cambria Counties, now totalling 3,080.6 acres.

Lycoming County: A tract containing 66.5 acres purchased from Mrs. Jennie Goodrich which became part of State Game Lands No. 75, now totalling 19,371.4 acres.

Schuylkill County: C. L. Bendigo conveyed 418.8 acres in Hegins Township, which became part of State Game Lands No. 132, now totalling 710.8 acres.

These recent acquisitions brought the aggregate area of State Game Lands to 603,545 acres as of May 31, 1939.

WATCH DEER CROSSINGS

A doe deer leaped against the automobile of Lloyd Harlacher, of Upper York County recently, causing the vehicle to upset. The driver suffered a fractured rib and injuries to his back; the deer was killed instantly.

A young buck fell from the top of the mountain at the point of the Delaware Water Gap recently in front of a car operated by Rev. Robert Kiefer, of Cherry Valley, breaking both its front legs.

Norman Johnson and George Edgar, of Orangeville, Pa., were cut by flying glass when their automobile struck a deer on the Orangeville-Berwick highway. Both men were treated at the Bloomsburg Hospital.

"On Easter evening a buck deer wandered into Merchant Street, Ambridge, was struck by an automobile, then jumped through a door into a grocery store; after playing havoc with the inside, it was finally killed by the local police. The deer was thin; otherwise in pretty good condition."—Game Protector J. Bradley McGregor, Beaver County.

"On the night of April 21 I was called to investigate an auto accident in which a deer had been hit by an auto near St. Lawrence. The auto of Earl Beckwith of Patton, Pa., was damaged to the extent of approximately \$50.00, but the deer was not seriously injured and managed to run off into the darkness and disappear. A search of the area failed to reveal the deer."—Anthony J. Zaycosky, Cambria County.

"An automobile belonging to a Mr. Elton Hanks of Crystal Springs, Fulton County, while being operated on Highway Route 126 near Deneens Gap in Fulton County, had a wild turkey hen fly through the windshield and land dead in the back seat of the automobile. This unusual accident happened on the afternoon of April 13, 1939."—Game Protector William Lane, Fulton County.

To whom are you going to leave the job of restoration?

It is not a case of "wake up and live," but *wake up or you won't live.*

—JAY N. (DING) DARLING.

STOLEN

1 Ithaca D.B. 12 Ga. Shotgun, No. 358556, 28" bbl., wt. 6 Lb. 15 Oz., right barrel modified, left full choke, small dinge in right barrel about 8" from end, *owner's name on small piece of paper under stock plate.*



Here is the result of careless driving. Sometimes, too, motorists are badly injured when they strike animals, particularly deer, on the highways. Drive carefully when you see "Warning—Deer Crossing" signs.

HERE ARE DEPICTED THE VERY POOR DEER CONDITIONS WHICH EXIST IN CERTAIN PARTS OF NORTHEASTERN PENNSYLVANIA



1. Part of a herd of over 100 deer which had to be fed constantly during the winter. The Commission's photographer said they reminded him of so many "bags of bones."

2-3. These two photos show a pronounced "deerline" which is noticeable through most of the northeast section.



4. Close up of emaciated deer. Many of them died as evidenced by the scene in Fig. 5. Lack of natural food for the size of the herd is responsible.





Wildlife Museum at Pymatuning Waterfowl Refuge, New Linesville, Crawford county.

THE NYA IN CONSERVATION

The National Youth Administration has contributed much to conservation during the past year, and Walter S. Cowing, State Director, is to be highly commended for the splendid cooperation he and his staff gave the Game Commission during this period. Among other things the NYA turned out 10,000 box traps for catching rabbits, 2000 each having been made in Pittsburgh, Erie, Scranton, Philipsburg and Philadelphia. The resources of these and other shops have also been used by the Game Commission in producing other articles for use on game lands and refuges. For example, the boys employed in the Bedford shop made hundreds of bulletin boards and markers and a number of quail rearing pens. Winter feeding shelters were made and erected by NYA youth in McCracken, Pine Bank and Mt. Morris, Greene County. The work of the boys on the Altoona watershed, Blair County, was outstanding in the field of erosion control. Here the youth planted 75,000 trees to prevent erosion and helped to preserve the water supply. Part of this work was clearing and grubbing 225 acres of the water shed of noxious vegetation prior to planting more trees.

In Bucks County 11 boys were employed in operating a fish propagating project under the direction of the County Fish Warden, and on Little Juniata Creek in Perry County a crew of 10 boys built retards and check dams.

Many NYA youths were employed in making needed improvements on State Game Lands No. 37 in Tioga County. A county-wide conservation program in Wayne County sponsored by the Game Commission employed boys of that district. Extensive reforestation programs were carried on by enrollees in the Tioga Forest District of Union County.

Venango County youth were instrumental in planting 25,000 four-year old trees on state-owned lands as well as assisting in the routine work of erecting bird and game shelters during the winters of 1937 and 1938. The same group was also assigned to aid the State Department of Agriculture in several campaigns aimed at the eradication of the Japanese Beetle and other insect pests.

In the late summer and fall of 1938 a group of boys worked on the Game Commission's Beavertown Nursery helping to graft and prune trees. They later erected several hundred wildlife shelters in the same area. Drainage of swamps and other areas conducive to breeding of mosquitos and other insects was done with NYA help in Center County. With the Lycoming County Consolidated Sportsmen Association as co-sponsor trees and shrubs were planted, propagation areas cleared, and fences and boundary markers built on State Game Lands 508 and 134. Food trees and shrubs were planted on state-owned land near Keating Summit, Potter County.

Game Refuges No. 51A, No. 51B, and No. 138, located in Fayette County were cleared and improved. Reforestation work was conducted on the Washington and Buffalo Township Game Preserves in Butler County. Working at State Game Lands No. 137 in Armstrong County, 24 boys cut a boundary line ten miles long and eight feet wide, erected a single strand fence, cleaned and replaced 400 boundary signs, and prepared ten miles of fire lines. At Brady's Bend the same youth reclaimed 1303 acres of state-owned land. In Mercer and adjoining counties youths were used during the spring and summer of the past year in aiding the Agricultural Department in insect pest eradication.

At the Reynoldsdale Fish hatchery, Bedford County, 37 NYA boys erected a double level, combined garage and storage house for the Fish Commission. Included in this work was raising a small shed, reclamation of the lumber, excavating a foundation, installing 25 cubic yards of rough stone foundation, building the frame shelter, 22' by 40', and painting the building. The youth also laid a concrete floor on the lower level of the shelter.

Stories of accomplishments of this nature can be related for practically every county in the state. It is apparent that this work will be appreciated doubly within the span of ten or twenty years as the thousands of trees and shrubs planted, the bird and game life taken care of, and other work completed will con-

stitute, in a large measure, the out-door attractions of the state. Not the least effect of this work is the practical education in conservation and restoration which these youth have obtained from their actual work experience. Their contact with nature has impressed upon their minds the vital need for conservation work. These youths have become, as it were, students of nature and it is inevitable that they will spread the lessons in conservation and restoration which they have learned first hand through the NYA.

The following copy of a statute in force in England in 1762 was submitted by William S. Bailey, Attorney-at-law, Harrisburg:

"And whereas great mischiefs do ensue by inferior tradesmen, apprentices and other dissolute persons, neglecting their trades and employments, who follow hunting, fishing and other game, to the ruin of themselves, and damage to their neighbours, therefore if any such person shall presume to hunt hawk, fish, or fowl (unless in company with the master of such apprentice duly qualified); he shall not only be subject to the other penalties, but if he be prosecuted for trespass, in coming on any person's land, and he be found guilty, the plaintiff shall not only recover damages against him, but full costs." Statute of 4 and 5 William, Chapter 23, Section 10.

Records have been presented to this department of two crows bearing metal bands which were killed recently. Any information regarding the banding will be appreciated by the following:

Killed in Frederick County, Maryland; outer metal band bears No. IF 38 PA 1799; inner rubber band bears the following—on the outside—R 31; on the inside—267.

The above crow was killed by John S. Fox, 304 Center Street, Frederick, Maryland.

Killed in Berks County, Pa., on March 8, 1939, by Thomas Deibert, of Reading, a crow bearing an aluminum band No. B-D 396570.

CURRENT TOPICS

NOTES FROM THE FIELD

"A very interesting incident was observed on May 1. While on weekend leave, I stopped on to visit old friends at the Honesdale Sub-Station of Motor Police. Two of the Officers just arrived, after apprehending car load of gypsies, charged with theft. In searching the auto used by the gypsies, they discovered a live grouse, apparently unharmed, except that its wings and feet were securely tied. The bird was brought in the Station, untied and placed in a box. Apparently as though in gratitude for being thus relieved of its shackles, the bird promptly laid an egg. The Motor Police called Game Protector Maynard Miller, Wayne County, and grouse and gypsies were turned over to him for further action."—Division Game Supervisor Rollin Heffelfinger, Div. "G", Westmoreland County.

"On April 29 I located the nest of a black mallard duck in Canaan Twp., Wayne County, which was located in a patch of brush at least one hundred fifty yards from any water. The nearest water of any kind to this nest was a small spring brook."—Game Protector Maynard R. Miller, Wayne County.

Refuge Keeper Lynn Rosenkrans, Elk County, reports that the beavers on the East Branch have made their homes in some of the dams built by the WPA, and that they are also appropriating tops and branches cut by WPA workers in that vicinity.

"While trout fishing in Big Traverse Creek, Beaver County, a member of the Coraopolis Sportsmen's Association saw a crow rise in the air with a young live rabbit in its claws. It dropped the rabbit, which, when picked up, was still alive but soon died."—Frank F. White, McKees Rocks, Pa.

"Killed a stray house cat on Refuge 111 on May 6th that weighed fourteen pounds. On examining stomach contents, I found one freshly eaten red squirrel and a partially digested rabbit. The intestinal tract showed rabbit fur, grouse feathers and several feathers of some small bird. It is two miles to the closest farm house and the cat had not come from there. It had apparently been living wild for some time."

Refuge Keeper Burt Oudette, Crawford County, reports the following: "The Great Blue Heron nesting area located on the east side of the refuge has been broken up. These birds have in the neighborhood of 200 nests and same were made ready for hatching this spring. Eggs were layed in the nests, same were not hatched but destroyed and at this time very few herons are using the refuge nesting area. A check has been made but to date no direct cause has been found as to why the herons left the area."

Refuge Keeper Raymond Sickles, Crawford County, reports the following: "While on a vermin hunt on Clark Island with Mr. Oudette, we found a red-tailed hawk nest containing two dead young hawks, a young rabbit and a grass snake. Evidently the young hawks had been killed by a raccoon the night before, as part of the bodies had been eaten by a chewing animal strong enough to crush and devour the skull of the young hawk. The snake and rabbit were untouched and the adult hawks were still attentive to the nest.

"Several pair of gadwall ducks have been noticed and indications point to their nesting here. Heretofore, the gadwall was very rare during nesting season."

"April 27—I set three (3) pole traps in refuge on G. L. No. 151. On May 1st I looked at the three traps and found a Cooper's Hawk in one, a Red-Shouldered Hawk in another and a large cat in the third trap. The cat was caught in a trap at least twenty (20) feet high. This proves that these wild house cats do not hunt only on the ground."—Game Protector Frank L. Coen, Lawrence County.

"Found on May 18 one Hungarian Partridge on the Thomas Run side of Refuge No. 12."—Refuge Keeper Walter Zellers, Bradford County.

James Morton, Chief of the Division of Land Management says that the section Mr. Zellers mentions is west of the Refuge house and a long way from any cultivated land. It is not understood how the bird happened to get in that section because none were released near there. It would be interesting to know if there is another one which might be nesting.

"I investigated a report of wildcats bothering a fisherman from Crawford County while on the Farnsworth Creek and found that the hideous sounds heard were caused by two amorous porcupines. No wildcats or their tracks have been seen in this section since 1927."—Refuge Keeper John Hopkins, Warren County.

"During the last three weeks I picked up seven ringnecks which were killed on the railroad running through Game Lands No. 109, Erie County. I spoke to a railroader about this situation and he told me that the birds would roost or sit on the rails and make very little attempt to move at the approach of a train. The heat held by the rails and cinders seem to have some attraction for them."—Refuge Keeper Fuller Coffin, Crawford County.

(Continued on Page 25)

Whistling Swans snapped by the Commission's photographer just after they alighted on the Susquehanna River opposite Harrisburg.



THE MAIL BAG

MORE ABOUT DEER

ODD title for an article isn't it? A simple problem for a school boy isn't it? Well if you think it is, ask the Pennsylvania State Game Commission about it and they will tell you that they are trying to solve that problem, only that theirs is multiplied many times over.

Nature started this thing called balance and it worked O.K. until man with his "superior" intelligence started to monkey with nature's machinery and upset the balance. He cleared thousands of acres that had little value as farm land, and about all that he did was to destroy the homes and source of food for wild creatures.

There was nothing haphazard in nature's plan, but a rigid rule was that a certain territory would support just so much life and no more, but man came along and destroyed most of that life and made the territory so barren that little remained to sustain what life was left.

Years ago our Game Commission set upon the task of restoring to Pennsylvania the game that was rapidly disappearing. They prohibited the killing of female deer, and that changed the deer problem that had about reached the stage of two from two leaves nothing, to one that has brought the opposite—two and two make four, only many times over.

During the months of December, 1938, and January, 1939, there were reams of paper used in deploring the "wanton slaughter" of does in the short open season of last fall.

One would be led to believe that the decision to kill off the surplus deer was a "swivel chair" decision by the Commission, but I believe it to be the result of the most exhaustive survey and accurate census of wildlife ever undertaken.

I read articles written by "experts" and very "able" editorials condemning the Game Commission for its action, and from what I know from almost fifty years of my own observation, I have reached the conclusion that the most of these "experts" acquired their qualifications as such by seeing a deer as they passed by in a car, or by spending as much as two or three days in a hunting camp, and that the writers of these "able" editorials were very well meaning but badly misinformed.

Let these objectors go to the woods at all seasons of the year, as I do, and learn what havoc our deer herd has wrought. If they are not kept in check, we will soon have no game, but deer or a desert.

They are the most destructive animal that ever roamed the woods in modern times. They have reached mass production and are causing mass destruction. They will eat any and everything that other wild things eat, except hickory nuts.

They are destroying our woodlands by eating the young trees and bushes that are the cover and in many cases the source of food of our small game. My observation is that just so fast as deer increase in a locality, small game, such as ruffed grouse and turkeys decrease in exactly the same ratio. They can not exist without cover and feed, and the deer destroys both and moves on.

If deer would stay in the mountains as they should, there would be little complaint, but they leave the mountains in search of food and come to the valleys and woodlots adjacent to farms and destroy ten times more crops than what they eat. There is nothing that they fear and hate as much as a dog, and would stay in the mountains away from dogs for that reason alone if they could get enough to eat.

Whether we like it or not, we must reduce our deer herd to about the level of 1923 and try to keep it there.

My only criticism of our Commission last fall was that there should have been no illegal deer, that in that short season bucks could also have been legally killed.

I believe that the only way to save our wild turkey from extinction is to prohibit the killing of only gobblers with beards, or second year turkeys.

Saving the doe deer has given us more deer than we know what to do with. Saving the female ringneck has insured their permanency and saving the turkey hen will restore the wild turkey without any artificial propagation.

On a Pennsylvania Road Map you will see Route 35 running from Selinsgrove to Shade Valley; Route 829 to Blairs Mills; Route 75 to Port Royal; Route 22-322 to Millerstown; Route 17 to Liverpool and Route 11 to Selinsgrove. In that vast territory there is not one deer living that has any license to live, for embraced within that territory is some of the finest small game hunting ground in the world. From that region the turkey has about vanished, also the ruffed grouse, and until last fall the deer fairly swarmed there, and where they are there is little of anything else.

The "wanton slaughter" of last fall reduced the herd but we still have many more than the woodlands will support, and they will continue to ravage some of the finest farms in the State unless they are further curbed.

I can understand the tender sentiments expressed regarding the "wanton slaughter" for a deer is a beautiful creature, so is the painted lady in a night club show. They look to be innocent and harmless and I presume that the dear lady is, but I know that the deer is not.

On December 5, 1938, there appeared an editorial in a leading daily where in the Game Commission was taken severely to task, and they think it possible to catch deer where they are not wanted and remove them to where there are none. It may be possible but until our Game Commission can develop a corps of Game Protectors of the caliber of the young man that I am going to tell you about, the task looks hopeless.

A sheep rancher in Montana hired a likely looking young tenderfoot that appeared for a job, and told him to go out on the range and drive the sheep into the corral. He did not appear until evening with the sheep, and with most of his clothing torn off by his exertions. He reported to the rancher who asked him why it had taken him so long that he had had trouble catching the lambs. The rancher said, "I have no lambs." The tenderfoot said, "Well, I caught four of them." Said the rancher, "I'll go and see." He went out to the corral and in with the sheep were four jack rabbits that the new hand had caught.

That is the kind of men that the Game Commission needs to put into effect some of the crackpot ideas that are advanced by "expert" critics.—C. C. Pannebaker, Mifflintown, Pa.

"Mr. Henry Staley, of Knapp Creek, N. Y., and I took a trip through the deer country to get an idea of the deer situation. We went through Duke Center, Eldred, Smethport, Clermont, Instanter and up Straight Creek and over the mountain to Emporium, coming home through Crosby. We counted 381 deer and except for one that was crippled in the front leg, all appeared to be in good condition."—Walter Brown, Knapp Creek, N. Y.

IS HE A FRIEND OR ENEMY?

MUCH has been written and said about the destructive habits of the crow. One rarely hears a word in its favor. If there is any truth in the statement that everything that walks and creeps upon this earth does some beneficial work then we should pause in our castigation of the crow, and try to discover its good points. We know, of course that it is intelligent. But do we know that it is omnivorous and feeds largely upon insects and small mammals. The crow's main diet is insects, and includes destructive black crickets, grasshoppers, beetles, grubs, and larvae. Many of the insects the crow eats are taken early in the spring when their life cycles are at the lowest ebb and when their destruction results in the greatest good.

Although we will have to agree that the crow is not the angel of the farmer altogether, still many of its depredations can be lessened or entirely prevented by protective measures. Fowl can be made secure from hungry crows with very little trouble. In spite of the crow's intelligence, a few scare-crows here and there in a field are very effective, as thousands of farmers and gardeners can testify. However, sometimes these and many other devices have been used by farmers to outwit this scheming bird without success, and the patience of these good people becomes well nigh exhausted. However, a little of the bad goes along with the good in every case, and since the farmer profits by the good work this bird does, it seems not at all unreasonable to ask him to bear with some of the crow's destructive habits.

Of course an over-abundance of crows is not to the best interests of the farmer or to the countryside, but on the other hand its extermination would remove the most effective enemy of certain pests, worms and mice that do more damage to a field than a large flock of hungry crows.

Therefore, before we condemn entirely these jet black birds that enliven the district wherever they roost, let us admit that they are not altogether harmful, but that they are also agents of good. They are the farmer's friend when gathered in small numbers, and only when their numbers become too large will he have cause for complaint.—Andrew C. Zappa.

CURRENT TOPICS

NOTES FROM THE FIELD

(Continued from Page 23)

"Last week a farmer reported the following to me:

"While plowing he noticed something peculiar in the adjoining field. Upon investigation he found a groundhog with a tin can, one about the size of a medium soup can, forced over part of its head and covering its eyes. It would move forward slowly until it touched something, then back around and start in another direction. With some difficulty the farmer was able to remove the can by cutting off the lid which had been forced inside. By the impression left on its head he thought the animal had been on for several days. He was unable to tell what had originally been in the can."—Game Protector John S. Shuler, Vancourgrift, Pa., Armstrong County.

"I have seen more game killed on the highways this spring and summer than ever before. This seems to be carelessness on the part of the motorist."—Game Protector William A. Lodge, Jefferson County.

"There has been an epidemic of Cabin and Hunting Camp looting in this county the past season. We have apprehended two of the vandals but there are more at work. I suggest that sportsmen visit their cabins and summer homes more often. Then if they find anything wrong, the clues will be much fresher and probably easier to work on. Some camps are not visited from one year to the next. Then when they find the camps looted it is almost impossible to locate fresh clues."—Game Protector Fred S. Fisher, Union County.

Field officers report observing more hawks this spring than for many years. Game Protector John Lohmann, Pike County, says that red-tailed, red-shouldered, and marsh hawks are present in greater numbers than heretofore, especially along the Delaware River where ringneck pheasants have been stocked.

Protector Lohmann is also alarmed about the killing of game on the highways in his county, claiming that the World Fair traffic, especially along Route 6, is taking a heavy toll.

Refuge Keeper Burt Oudette, Linesville, Crawford County, reports the first wild duck nest found April 28. To date he has located a number of nesting mallards, black ducks and blue-wing teals.

The Pymatuning Waterfowl Refuge has become one of the finest duck ports in the east. During the season of 1938, 30 species of

migratory waterfowl and shorebird nested in the refuge. There have been 85 different species observed at different times.

"On May 2, while patrolling the boundary line on State Game Lands No. 138, I came upon a large blacksnake. Just as I started to kill the snake a grouse flew out of the brush about four feet away. The snake measured five feet in length. Thinking that the grouse might have a nest nearby I started to look for it. It was in the leaves and twigs at the side of the trail and contained 13 eggs."—Refuge Keeper George Sprankle, Fayette County.



Showing holes in stump of maple tree where spikes had been driven in years ago to tap syrup.

"On the evening of May 11, a short distance from my headquarters, State Game Lands No. 35, Susquehanna County, I heard a ringneck pheasant making an awful noise. Investigating immediately I observed a hawk of the long-tailed Falcon type, attacking the pheasant.

"After much squawking and dodging around the pheasant took to the air but was soon forced to the ground again by the swift pursuit of the hawk, at which time for some unknown reason the hawk gave up the battle and flew into the woods."—Game Protector, Howard F. Hoffman, Susquehanna County.

"While accompanying Mr. Reinhold L. Fricke on a bird study trip we located a Red-tailed Hawk nest and a Cooper's Hawk nest. The Red-tailed nest had well grown young while the Cooper's nest contained only one egg. The duck nests found to date are mallard, black duck and blue-wing teal."—Refuge Keeper Burt L. Oudette, Crawford County.

Refuge Keeper Albert Bachman, Bedford County, reports the following:

"On May 8 Kenneth Beck, Star Route, Everett, Pa., stopped me along the Black Valley road and pointed out a very large pine tree standing near the summit of Tussey Mountain, on Game Lands No. 97, stating that a pair of hawks had built a nest in the tree and had young. At 4:00 A.M. on the 9th I visited the nest and upon climbing the tree found three young. The nest was about 40 feet from the ground. Since the young were but a few days old I left them in the nest with two gray squirrels and a grouse that they were feeding on. The squirrels and grouse were full grown. When I approached the nest both adult birds sailed around over the tree about 100 yards up, and while I was at the nest they swooped within about 30 feet of me. I believe the birds were Red-shouldered Hawks.

"I again visited the nest on May 19 and found but one young hawk in nest with a groundhog that it was feeding upon. This bird was probably the runt of the brood, the others having left the nest."

"While on Game Lands 143 last Tuesday I saw a flock of fifty turkey buzzards. This is rather unusual for this section."—Refuge Keeper John Hopkins, Warren County.

"On a recent fishing trip to Williams Grove Park which is about five miles beyond Mechanicsburg, Dauphin County a companion and I saw a female wood duck fly into a cavity of a tree quite high off the ground. While I am a poor judge of distance, my guess is that this cavity, which I am sure is the nesting place of the duck, is seventy-five feet from the ground."—Chas. F. Stambaugh, Division of Law Enforcement.

CONSERVATION

Shadows across the face of the earth . . .
Furrows and ridges, holding the soil in girth.
Grasses and shrubs, fruit of the wild olive tree,
Storing life in the soil for days that are yet to be.

Tangible things, and holding, as sure as life,
The soil in place; and moisture; as a thrifty wife,
Nursing roots and seeds—life just under the earth,
Dormant as yet, awaiting the season of birth.

Guarded from fingers of clutching hands,
Insatiate for control of soil and shifting sands;
Guarded, too, from force of driving rain,
And streams, escaped their banks and gone insane.

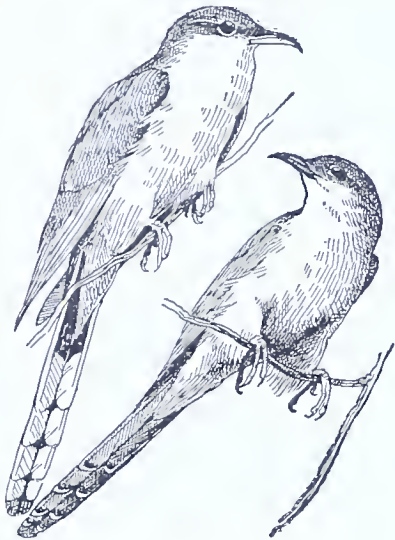
Impregnable stronghold of the soil, defiant of failure;
These grasses that bind, furrows that build, legumes that nurture.
What heritage is mightier than a soil unthinned,
Where growing things guard against wash and wind?

—WANDA M. SMITH.

OUR FEATHERED FRIENDS

By DR. GEORGE MIKSCH SUTTON

The Black-billed Cuckoo—A Caterpillar Eater



Above: Yellow-billed Cuckoo.
Below: Black-billed Cuckoo.

How slender, quiet and mysterious is the Cuckoo. It sits among the leaves of a maple or sycamore and as the spots of light and shadow move across its body it seems part bird and part spirit. It moves its head slowly, and perhaps peers down at us as though it were passing judgment upon us. The plumage of cuckoos is soft and silken and on the gray-green upper parts of the black-bill's coat is a delicate luster, which is bronze-golden in some lights and bluish-green in others. Below the black-bill is white, and on the outer tail feathers are narrow white tips called "thumb-markings," which are not easily seen in the field. The white tips of tail feathers are much more noticeable on the yellow-billed cuckoo, a close relative of the present species. The black-bill's mandibles are dusky blue-black, and its eyelids are red. On the lid is a row of small, but perfectly formed eyelashes—a rather unusual thing in the bird world. The cuckoo's foot is awkward looking, with four long slender toes arranged with two pointing forward and

two backward. But these feet are strong and permit the slender bird to creep about the twigs in pursuit of food.

Anyone who has had a "wooly-bear" caterpillar down his back remembers the incident as disagreeable. But the cuckoos like to eat these hairy caterpillars, and during some months of the year live almost altogether upon them. Cuckoos are contented when they find a great gauzy web on an orchard tree, for the web holds a wriggling mass of young caterpillars, which may be eaten at ease and fed to the four hungry young.

Watch the cuckoo as it tears away the web and plunges its bill into the mass of caterpillars. One after one he eats them until he has filled his stomach and crop with perhaps a hundred. Then, instead of flying away he may simply sit by the banquet board and await the return of his hunger.

The nest of the black-bill is not neat. It is flat and flimsy and built low in a thickly leafed tree or shrub. The eggs are among the most beautiful things in nature. They are symmetrically oval with fully rounded ends, and are of a glorious blue-green color which is difficult to describe. The shells look as though they had been carved from some very exquisite and highly colored Jade, and has then been dusted over with an even coat of white powder.

The young birds are, frankly, ugly. They are black, skinny creatures, covered with long white hairs. And their mouths are large and gluttonous. Their eyes hardly look like birds' eyes; they are more like a snake's in some ways. And these young things have an appetite which is egregious.

But every farmer and orchardist must think of the cuckoos as valuable friends. For all during the summer months they are searching for caterpillars—large ones and small ones, smooth, velvety ones, and hairy, bristly ones; and the cuckoos are almost the only bird which draw no line in caterpillar consumption.

COLLATERAL EFFECT OF OVERBROWSING

Extract from the Second Edition of "Hunting Wild Game With Flashlight and Camera,"—by George Shiras 3rd.

"In the extensive study of isolated tracts denuded of ground vegetation or where trees are trimmed as far as a browsing animal could reach, I paid little attention, at the time to the effect these changes would have on the welfare of many birds and smaller animals.

"However, in a retrospective consideration of those sections in which moose and deer had suffered starvation I can now recall a marked absence of the smaller forms of life.

"I had sometimes wondered why I had seen no grouse and few other land birds on Grand Island, St. Ignace Island, Presque Isle, and Isle Royal in Lake Superior, on the Kaibab Plateau, Arizona, or elsewhere in which much of the plant life had been destroyed.

"When one realizes what effect the absence of ground vegetation or of saplings, bushes, bearing buds, berries, and seeds, has upon the food supply and shelter of many birds and animals it is not strange that they have deserted such places.

"Moreover, when the forest floor becomes bare, dry and sterile then grubs, worms, ants and smaller insects disappear, depriving most insectivorous birds of their customary diet. Even the black bear, bulky as it is, is largely dependent upon berries, roots, grubs, mice and ant eggs, so suffers accordingly in over-browsed areas.

"As a further result of these conditions, rabbits, ground squirrels, moles and mice suffer equally from the lack of food, affecting in sequence, predatory animals and birds such as foxes, skunks, weasels, lynxes, hawks and owls.

"When the equilibrium maintained by nature is thrown out of balance it disrupts a system of inter-dependence based upon centuries of mutual adjustment. This must be recognized if we are to get at the foundation of many problems now confronting the zoologist or the game conservationist."

A BETTER FLY DOPE

A druggist, anxious to help fellow sportsmen, claims the following to be the "real stuff" . . .

Oil citronella—1 ounce
Camphorated oil—1-3 ounce
Oil of Tar—1-3 ounce
Oil Pennyroyal—1 Drachm
Castor Oil—4 ounces

This will make a package easy to carry—can be obtained at any drug store—stays on longer and is easier to wash off. And "they don't like it."

To aid in combating fur racketeers, a method of identifying beaver bloodstains has been evolved at the University of Minnesota.—Science News Letter.

Except as throwing material, rotten egg served no good purpose until a smart trapper tried them as fox bait. In three months he lured 124 foxes to his traps and caught them all.—*The Minnesota Conservationist*.

Delaware is the only State in which no big game animals were reported when the U. S. Biological Survey took recent inventory.—Science News Letter.

About 5,000 of the goats running wild in Hawaii's National Park were removed last year to conserve park vegetation.—Science News Letter.

An American expedition recently found in the New Guinea jungle a tribe with such advanced farming practices as crop rotation, use of trees as windbreaks and to prevent soil erosion, and a system of land irrigation and drainage.—Science News Letter.

The Conservation Commission of West Virginia has taken advantage of the funds made available by the Pittman-Robertson Act to acquire 9,000 acres of land in Hampshire County, that State. The area embraced is mountainous in character and amply supplied with water by creeks and springs. It supports an abundance of food and cover for the white-tailed deer, ruffed grouse, and the wild turkey, which are the most important species of wildlife now inhabiting the area.

The D. A. R. State Forest, near Goshen, Mass., is to be developed for the benefit of wildlife, according to plans of the Massachusetts Department of Conservation. The area is approximately one-half mile wide and one and one-quarter miles long and is to be fenced, posted, and the cover improved by plantings and other improvement operations.

Many of the Indian trails followed ways taken by game in search of new feeding grounds.

A MAN and HIS DOG

When dawn of light first spread its rays on earth,

And man saw break of day by Higher Hands,
God gave to man in his new land of birth,
A real true friend that always understands.
His dog, a pal who eases care and strife,
Blest with love and affection that God gave,
This little pal so loyal throughout life,
His loyalty extends beyond the grave.

He'll kiss the hand that has no food to give,
He'll lick the wounds and sores that they may heal,

The most unselfish friend that e'er could live,
The love that's in his heart his eyes reveal.
The glowing sunshine in his heart shines on
To make his master happy through the day;
He romps and plays and when the day is gone
He'll watch through night to keep all harm away.

If fortune drives the master forth alone
Into a friendless, homeless outcast place,
The faithful dog plods by his friend he's known,
He loves his master even in disgrace.
The best friend in this world that man
can know,

The only thing he asks is to abide
Close to his master so he can bestow
His friendship always by his master's side.

A man's dog stands by him until at last
Death takes the master into its embrace,
Then even by the graveside he will cast
His lot beside his master's resting place.
And when all other friends pursue their way,
The dog pursues his watch with scarce a breath,
With broken heart this noble friend will stay
Beside his master 'til they're joined in death.

—ROBERT E. DIVELY.

The New Jersey Fish and Game Commission liberated more pheasants, quail and chukar partridges this spring than ever before. A total of 5,500 pheasants were liberated in all sections of the State. They were hardy, year-old birds, in fine condition and mostly cocks. Two thousand quail were put out in mated pairs, six birds at each point, in the best environment to be found. Five hundred chukar partridges were distributed in sections where it was thought they would thrive.

WHY WORRY

There are only two reasons for worry. Either you are successful or you are not successful. If you are successful, there is nothing to worry about. If you are not successful, there are only two things to worry about—either your health is good or it is bad. If it is good there is nothing to worry about. If it is bad, there are only two things to worry about—either you will get well, or you will die. If you are going to get well, there is nothing to worry about, and if you are going to die, there are only two things that you will have to worry about—either you are going to heaven, or you are not going to heaven. If you are going to heaven, there is nothing to worry about,—if you are not, you'll be so doggone busy shaking hands with old friends, you won't have time to worry, so
WHY WORRY.—BERT CORDES.

A thick stand of cattails, willows and alders along a small brook or irrigation ditch may drink it dry.

Traffic cop (bawling out motorist): "Don't you know what I mean when I hold up my hand?"

Lady motorist (meekly): "I ought to. I have been a school teacher for 25 years."

Hotel Guest: (phoning down from room in hotel) "Is this the night clerk?"

Clerk: (awakening from sleep) "Well, what's biting you?"

Hotel Guest: "That's what I'd like to know."

President Roosevelt, by recent executive order, authorized the establishment of a new federal wildlife refuge in the Little Bend Oreille section of northeastern Washington. The new refuge will contain approximately 65,000 acres. A variety of wildlife including white-tailed deer, Rocky Mountain mule deer, black bears, blue, ruffed, and Franklin's grouse, mink, muskrat, marten, beaver, and great flocks of migratory waterfowl use this new sanctuary.

SCHOLARSHIP AWARDED

A scholarship to promote the study of fish and game management in the state, named in honor of the late Dr. Earl E. Hoover, has been established by the Federated Sportsmen's Clubs of New Hampshire.

Extension work, pure research, and academic study will all be a part of the program conducted by the new biological institute recently authorized at the University of New Hampshire. The conservation of wildlife and health will be two major developments in extension work in an effort to develop a more widespread interest in the preservation of natural resources.

Four residents of Blytheville, Ark., entered pleas of guilty in Federal Court at Jonesboro, Ark., to violating the Migratory Bird Treaty Act. Evidence has been obtained in connection with a special effort being made by the U. S. Biological Survey in cooperation with State authorities to apprehend persons involved in the buying and selling of wild ducks.

The beaver is the only one of all animals, birds or fish, perfectly qualified to bear the legend, "restore, protect, conserve America's wildlife." The beaver is the original upstream engineer, the number one conservationist of the animal kingdom. For thousands of years before the white man came to America the beaver was at work reclaiming soil and forests, conserving and stabilizing the water supply, providing habitat for waterfowl, fish and other aquatic life. In the beaver the finest social qualities are highly developed. He is the emblem of industry, frugality, perseverance and cooperativeness. He really is an outstanding example for those who seek his destruction.

Jack Miner, owner of the Jack Miner Bird Sanctuary at Kingsville, Ontario, invented a net to catch Canada Geese and placed his first band on a goose leg in 1915. Since then he has built his net over twenty or more times to perfect it with the result that this spring, over a period of nearly twenty-five years, he has caught, banded and liberated 20,000 of these largest waterfowl game birds.

This unique gun was carved from a solid piece of walnut by James Scheaffer, Harrisburg.





Nearly 600 men and women representing the various branches of the Crawford County Sportsmen's Council attended the first annual banquet of that group recently. The affair was an outstanding success, credit going to the officers and members of the Titusville branch. Speakers included Honorable O. Clare Kent, President Judge and Hayes T. Englert, Division Game Supervisor.

Guests included Game Protectors George W. Keppler, Meadville; John J. Kennedy, Titusville; Carl Benson, of Tionesta, and Burt L. Oudette, of Linesville and Fish Warden Gerald Munson of Meadville. Visitors introduced by Theodore F. Bartholomew, toastmaster, included John Mock, Pittsburgh sports writer and national president of the Outdoor Writers' Association of America; Rheinhold Fricke, of Pittsburgh, ornithologist of Carnegie Museum; Clint White, of New Wilmington, Lawrence-Mercer County Fish Warden; C. H. Buchanan, of Sharon, President of the northwestern division; C. B. Gill, of Sharon, Mercer County delegate; George Sillman of New Castle, President of the Lawrence County Sportsmen's Association; H. A. Starrett, of Tidioute, President of Warren County Sportsmen's League, and L. W. Wagner, of Franklin, President of the Venango County Rod and Gun Club.

There are lots of ways in which clubs can promote wildlife conservation at their various outings and banquets; for instance, having books of matches printed with certain wildlife slogans on the outside and the club's name on the inside; purchasing wildlife badges for Boy Scouts; chevrons or shoulder insignias for members of the club; presenting cooperating landowners and farmers with worthwhile gifts; each member place a club or conservation emblem or sticker above the tail light of his automobile. There are many ways in which the message of conservation can be put across in an effective way at little cost, and the more of these ideas that sportsmen's associations gather and put into effect the more the GAME NEWS will appreciate bringing them to the attention of other clubs. Let's make the GAME NEWS an exchange of ideas!

The Gallitzin Sportsmen's Association is planning to raise 100 ringneck pheasants this summer.

Approximately one hundred persons attended the Southern Tier Beagle Club's Annual Spring Trial held April 8 and 9 on the Rickard Farm near Honesdale, Cherry Ridge Township, Pa. There were thirty-four entries. The weather was fair but slightly windy which made it somewhat difficult for the derbies to do any

real hard driving. The all-age hounds turned in some real creditable work, however, and seemed not in the least bothered with the weather conditions. The Judging was capably handled by Earl N. Wedeman, Irving Merwin, George Linskin and R. J. Baker.

The Eastern Small Bore Rifle Association expects to run quite a pistol and revolver tournament at Wilmington, Delaware, on June 10 and 11. This should interest Pennsylvanians as Wilmington is only about eight miles over



J. M. Phillips, Pres., Tri-county Fish and Game Asso., Pillow, Dauphin Co. wearing button adopted by the club.

the line—in fact the range is only about three miles. The best way is through Lancaster to Gap where you turn right on Route No. 41 and go straight ahead. Prizes include 40 medals, about 138 merchandise prizes worth about \$400, and a \$100 cash prize for a revolver team match for women only. Two Smith and Wesson target revolvers and a Hi-Standard automatic barrel pistol are among the main awards. There will be 17 matches, 4 of them re-entry matches; 3 team matches and 10 single entry matches.—C. S. Landis, Chairman, Tournament Committee, 623 Geddes Street, Wilmington, Delaware.

The first annual spring banquet of the Crawford County Council of Sportsmen's Associations was held at Colestock High School, Titusville, Thursday evening, May 11. A corking good time was had by all. Incidentally, the *Sportsmen's News*, published monthly by and for the sportsmen of Crawford County, and edited by K. P. Williams, of Meadville, is a splendid house organ and is helping coordinate the work of the various clubs in the Council.

The Coraopolis District Sportsmen's Association, an affiliated member of the Allegheny County Sportsmen's League, believes that the GAME NEWS should be in every public library in the State. To further carry out its belief the club recently sent the Pennsylvania Game Commission eight paid up subscriptions to the GAME NEWS to be sent to libraries in and around Coraopolis.

The Erie County Sportsman's League, now approximating 3200 members recently put on a large motion picture demonstration of the latest wildlife pictures from *Field and Stream* and other sources at which over 2600 attended and from which \$2400 was netted. This association is one of the most active in the State, and its method of contacting members and of soliciting support from local merchants is excellent.

In conjunction with its movie show the club published a splendid advertising book which was chock full of interesting information for hunters and fishermen and also gave away \$1000 in cash and material prizes after the show was over.

The association has \$10,000 invested in its game farm which contains 15 ringneck brooders, 6 quail brooders, and the necessary holding pens, rearing fields, etc. It is capable of handling 4000 birds. Last year the association released 3500.

There are very few sportsmen in the State who do not know the able officers presiding over this highly organized group, namely, Dr. John J. Koehler, President; Karl W. Van Tassel, Vice-President; and Paul Howard, Secretary. The club also reserves \$1000 each year for purchasing rabbits. Most of the club funds are derived by the continuous activities, social and otherwise, which the association conducts, such as dances, trap shoots, picnics, etc. Its membership is \$1.00 a year which includes either a subscription to GAME NEWS or the *Angler*. The pictures on the opposite page depict a few of the scenes which the Editor saw when he visited Erie County recently as a guest of the association.

CORRECTION: The photograph on Page 25, lower right, of the June issue credited to the Conservation Club of Portage was an error. It should have been the Morrisville Junior Fish and Game Association getting ready for a game feeding trip. John F. Lumsden is the director.

Do not forget the annual round-up of the Mercer County Sportsmen's Council to be held in connection with the Mercer County Old Home Week at the fair grounds Saturday, July 8.

ERIE SPORTSMEN STAGE HUGE CELEBRATION

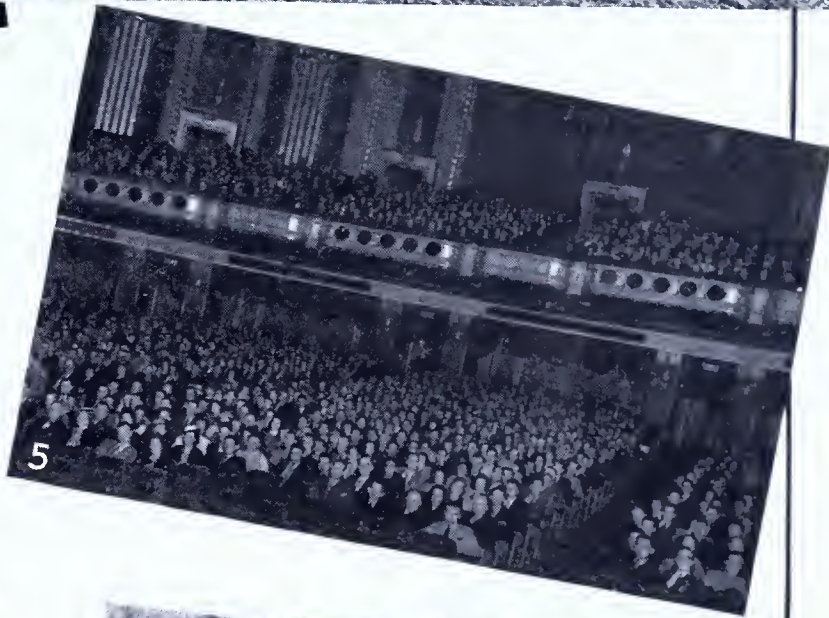
1. Entrance to Game Farm.
2. Brooder houses at Farm.
3. Part of the 2600 persons who attended the Association's movie.

4. Left to right: Dr. John J. Koehler, President of the Asso., Leo A. Luttringer, Jr., Editor of "Game News"; Henry Schell one of his assistants, and Karl W. VanTassel, Vice-President of the Association.

5. Inside of theatre. The show ended at 2:30 A. M. and all had a grand time.

6. Some of the fine ring-necks raised by the Club.

7. Type of rabbit refuges being provided on State Game Lands in Erie county by WPA, sponsored by the Asso. Game Protector Thomas A. Mosier, Erie, is looking in shelter.



MANAGEMENT OF THE RINGNECK PHEASANT IN EARLY WINTER

(Continued from Page 9)

Just why did the Spring Creek Area support a pheasant population seven times greater than the Brookside Area? The answer seems to lie in the great divergence in the amounts of hand-picked standing corn on the two areas (see table 1). Although 11.8 percent of the Brookside Area was planted in corn, only 12 acres, or 1.5 percent, were hand-picked and the stalks left standing. In contrast, 26.7 percent of the Spring Creek Area was planted in corn. About 120 acres, or 14.1 percent of the total land area of this tract, were occupied by hand-picked standing cornfields. Thus the Spring Creek Area contained ten times the amount of standing corn left on the Brookside Area during the winter months. The food and cover furnished by these standing cornfields were probably the reason why the Spring Creek Area wintered seven times as many birds as the Brookside Area.

Another event which indicated the importance of standing corn was the migration of about 40 birds from the Spring Creek Area to other territory immediately after an 11-acre standing cornfield in which they had fed and loafed was machine-picked in late December. This sudden drop in population was undoubtedly caused by the destruction of this cornfield by a mechanical picker.

This study revealed that in early winter the birds move to areas where food and cover are readily available during stormy periods. The major part of this movement took place about the time of the first snowfall, but it continued to a less extent throughout the winter. Whenever food was no longer available on an area or cover was no longer habitable, the pheasants moved to places where these essentials were present.

Mortality during the early winter was relatively low. Predator losses totalled 3.3 percent of the entire population for the two months of December and January. This is little more than the ordinary mortality which might be expected from old age and other causes. At the present time, winter predation does not appear to be a limiting factor on the pheasant population in Pennsylvania.

During the period covered by this study, the weather was comparatively mild and probably caused no severe hardship among the pheasants although it did influence their daily activities. During storms or on very cold days the birds remained at or near the roosts throughout the entire day. Even on the day following a heavy storm, they moved about very little and remained close to the roosts. During such weather pheasants fare best in dense roosting sites near which a good food supply is available. During very severe cold periods (20° below zero, accompanied by winds and snow) pheasants may actually freeze to death if forced to range far from cover for food. Extreme winter weather in Iowa and other States during 1935-1936 administered heavy losses to their pheasant populations. Green (1938), reporting on this most severe winter in Iowa in 117 years, says, "During the severe winter of 1935-36 not only comfort but also survival depended on the proximity of food to dense cover."

In eastern Pennsylvania ringneck pheasants will not continue to inhabit cover which is distant from food. For example, on the Brookside Area 23 pheasants roosted during the early winter in a young Norway spruce and red pine plantation. They fed in a machine-

picked cornfield adjoining the plantation, but this field was covered with snow during the storm of January 13, 1939. With their food supply cut off, 20 of these birds migrated to standing cornfields about three-quarters of a mile away from the plantation. Numerous similar incidents occurred during the winter.

The most ideal winter territory on the study tract was an 11-acre standing cornfield surrounded by dense hedgerows (see figure 6). Immediately across the road from this field was an abandoned ore pit which was heavily grown up to brush and trees. More than 70 birds roosted in the hedgerows and ore pit, and fed in the cornfield. Late winter counts indicated that this entire group of birds wintered successfully.

Even small patches of food and cover often proved valuable to the wildlife on the study area. During snowy weather four he pheasants roosted and loafed in a patch of brush about 100 feet square and very close to a farmer's house. They fed in a plot of sweet corn about 60 feet square in the farmer's garden, which was only about 50 yards from where the birds roosted. This indicates definitely that small brushy patches and a few rows of corn will carry several pheasants through the snowy winter weather.

The mere presence of sufficient cover on an area does not insure the survival of pheasants in a severe winter. Food must be available close to the cover. Standing hand-picked cornfields are the best source of winter food for pheasants, as the corn is available when the ground is snow-covered and food is badly needed. In eastern Pennsylvania the value of many hand-picked cornfields to pheasants is destroyed when the stalks are knocked down by a disc harrow in late fall or early winter. Probably interested sportsmen's clubs could arrange with many farmers to leave 15 or 20 rows of stalks adjacent to cover until the following spring. Those farmers who themselves desire to hunt would be very receptive to such a plan.

Another way in which sportsmen's clubs or other interested persons could greatly benefit wildlife at a small cost would be to arrange with farmers to leave a few rows of unpicked corn standing close to dense winter cover. Such a program would involve little effort on the part of either sportsman or farmer, but would be very effective. The time to plan such practices is during September before the harvest.

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William Taylor, William White, and Bob Wilson, all members of Waynesboro Sportsmen's Assn., with Great Horned Owls killed in forenoon's hunt recently.

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THE ARTIFICIAL PROPAGATION OF RUFFED GROUSE

(Continued from Page 11)

were used resulting in fertilization down to 2%. In the check pen, where no testing was practiced, holding 18 females and 9 males all winter, resulted in only 70% fertility of eggs. This was about the average for all previous red grouse, whereas in the wild over 90% fertility is the rule.

Thus it might appear that the one problem of securing fertile eggs had been solved, but for some unknown reason to me, the problem remains one of the major reasons why ruffed grouse are not being raised in the numbers once anticipated. Certainly if Dr. Allen's method of determining when the males are in the proper stage of the cycle for mating is entirely conclusive, it would probably be a rather expensive procedure to treat large numbers of birds in such an individual manner, and the objective is to raise the birds cheaply for stocking is out of the question at present. There is no doubt that the males have a definite mating cycle as have the females. The duration and frequency of the mating cycle seems to have no relation to size, physical vigor, body weight or plumage development. The best males seem to be two and three-year-old birds hatched from wild eggs, and the poorest from the standpoint of breeding, though not from physical appearance, were one and two-year-old birds of the second and third generation in captivity.

The other major obstacle to the raising of the birds in large numbers is the securing of large numbers of eggs. In the wild the birds lay on the average of 11. The breeders held by Gardiner Bump on the ground equaled this number on the average, while the birds held by Dr. Allen entirely on wire averaged only 7 and the hatchability of the eggs from birds on the ground proved to be higher than those from birds raised entirely on wire. It might be interesting to note that the hatchability of wild fertile eggs proved to be slightly higher than New York State's experiments than the fertile eggs from hand raised birds; being 92.2% and 87.5% respectively in 1933. The best layers proved to be two-year-old second generation birds which averaged nearly 15 eggs each. In spite of these encouraging figures Gardiner Bump stated low egg production to be one of the two major limiting factors in a statement he made in 1935. However, there is reason to believe that this number could be increased by selective breeding. In examinations of birds during the breeding season as many as 171 recognizable egg yolks were found.

Mention of selective breeding was made as a possible solution for increasing egg production. Why could not this procedure be used also for lengthening the breeding cycle for the male as well? Perhaps this is the only hope left to the increasing of the output of artificially reared grouse.

Surely the successful raising of the birds to maturity from eggs is no longer the problem that it was a few years previous. In 1935 New York State reports having reared 1006 grouse in captivity in the four years preceding. Donald Turrill (Rolling Rock Club, Pennsylvania), reports raising 80 grouse out of 112 chicks to 12 weeks of age in 1935. It is apparent that the problem of raising the birds in captivity from hatched eggs is a matter of refining of methods. It appears to be necessary to rear the birds on wire in artificial brooders. Little success has been obtained where deviations from this method have been tried.

Satisfactory results have been obtained in incubating eggs in a still-air machine at a temperature of 101½ degrees F. with a humidity varying between 55 and 62½ percent. In computing the weight loss of moisture due to evaporation the chicks hatched normally with a loss of 12.68%.

Colony brooders proved successful in New York State. 75 chicks in a 5x10 foot brooder with a run of similar size proved satisfactory. An "all-purpose" pen equally useful for breeding, brooding, rearing, holding, and wintering grouse has been developed at the experimental farm. This pen is 8x16', 4 feet of which is taken by a shelter. In one corner of this an insulated brooder compartment 2½ feet wide and 4 feet deep, which is heated electrically by means of two 100 watt elements, is located. A removable wire floor makes it possible to allow the birds to run on the ground or on wire, as the occasion arises. The all-purpose pen is made light enough so that four men can quickly shift it from one location to another, a desirable feature in case of disease. From 20 to 30 young ones in each brooder compartment proved even more satisfactory than the colony units. One of these pens can be used to winter as many as 20 birds, or two placed end to end with the adjoining sides of wire removed will handle as many as 40 birds. Baffles in the form of wooden boards 12" high placed at intervals across the pens augment shelter of pines and hemlocks and serve as a preventative to serious chasing and scalping among the adults.

From the foregoing discussion the reader may get the impression that New York State is practically the only agency that is attempting to raise these birds to any great extent. True it is that the state has done most of the work in connection with this bird, but there are many other private and public agencies doing considerable work. The reason these other agencies have not been mentioned to any great extent is because their findings and conclusions have not been published to any extent, and since this paper is based on what has been published no excuse has been given; the reason is obvious. The reader may also notice the lack of reference

to literature later than 1935. This too, may be explained by the lack of recent literature on this subject under discussion.

In conclusion, I quote Charles Wessel (1938), Chief of the Division of Propagation and Game Farms of the Pennsylvania Game Commission. During a conversation when asked what the most difficult problem was in the artificial propagation of ruffed grouse, he replied, "Fertility—that is the biggest problem we have." Thus we may conclude that the only solution lies in the selective breeding of males for a longer, surer breeding cycle, and at the same time this method could be used in increasing the egg production of the females.

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(Continued on Page 32)

"We have exploited our forests, exploited our rivers and lakes, exploited our soils and exploited our wildlife. The question is, how long can we continue to live by exploitation alone. It was Benjamin Franklin who wrote, 'Forever taking out and never putting anything in, soon exposes the bottom of the meal barrel.' Conservation is the reverse of ex-

ploitation and unless we begin soon to counteract exploitation by the practice of conservation, how soon shall we find ourselves at the bottom of any empty barrel, looking out through the bunghole at our departed standards of living." —Jay N. Darling, in a talk before the National Wildlife Federation.

The Holmsburg Fish and Game Association will hold its next meeting at Pennypacker Rd. and Torresdale on July 10, at 8:30. This announcement is being published at the special request of its secretary, John E. Tainor, 2032 Wilmot St., Philadelphia, Pa.

AN ANALYSIS OF GAME BILLS PASSED BY THE 1939 LEGISLATURE

(Continued from Page 1)

was unlawfully taken and possessed.

(h) Under the new Code it is unlawful to possess live beavers after the close of the beaver season.

(i) The law relative to setting traps five feet from any hole or den, which also included under-water sets, was clarified so that the five-foot regulation will not apply to under-water sets in the future.

(j) It makes it lawful to use snares without springpoles for taking predators from December 16 to March 31 next following in such counties as the Commission may by proper resolution designate.

(k) Under the new law artificial lights such as are ordinarily carried in the hand or on the person or lawful firearms may be used to take raccoons, opossums and skunks during the open season. Heretofore this applied to raccoons only.

(l) The time limit during which game may be kept in possession after the close of the season was increased from 30 days to 60 days, and the extension permit was eliminated.

(m) The use of a .22 or .25 caliber rim-fire cartridge was prohibited for hunting big game.

(n) Under the new Code anyone killing by mistake, or during the regular open hunting season attempting to kill by mistake, any wild bird or animal will be required to, within 24 hours, pay only one-fourth of the regular penalty. In case any bird or animal is actually killed by mistake it is obligatory on the part of the hunter to remove the entrails of the animal, deliver the carcass to the Game Protector or to his residence, and make a statement in writing under oath, explaining when, where, and how such mistake was made.

(o) The law also continues the penalty of \$25.00 for hunting or attempting to hunt game on Sunday, and provides a fine of \$15.00 for anyone hunting or attempting to hunt or kill game between 5:00 P.M. of one day and 7:00 A.M., of the next, Eastern Standard Time, except July 1 to Sept. 30, when the hours are 7:30 P.M., to 6:00 A.M., E. S. T.

(p) During the period July 1 to September 30 the requirements relative to carrying certain unloaded firearms and ammunition shall be applicable only from 8:30 P.M. to 5:00 A.M., Eastern Standard Time. This gives the woodchuck hunter a chance to shoot later in the evening and earlier in the morning during the summer months.

(q) The fine for having a loaded firearm in a vehicle while it is in motion, or is being used as a blind from which to kill game whether it is in motion or not, is continued at \$25.00. Any other possession of a loaded shotgun or rifle in a vehicle on a highway now makes the owner liable to a fine of only \$10.00.

(r) Under the new Code it is unlawful to discharge firearms on publicly-owned institutional grounds or lands connected therewith upon which human beings are incarcerated or hospitalized if such lands are posted. Furthermore, the persons in charge of such institutions may not hunt on the posted portions of such property. Of course these restrictions and provisions do not apply to any portion of sanitoriums, institutional, or park lands which lie outside the posted areas, and upon which the public is also allowed to hunt.

(s) Perhaps the most important game management feature of the Code is a special wildlife refuge project provision, which gives recognition and protection comparable to that

now accorded to game refuges established and maintained by the Commission. Such special wildlife refuges may be sponsored, established and maintained by any regular sportsmen's organization. Under the new code organizations, provided they have the written consent or approval of the owner or lessee of the land, and are so utilized in cooperation with the Game Commission, may set aside refuge areas of not less than two acres, in the proportion of one acre of refuge territory for every two acres of open public hunting grounds. Same must be posted with refuge signs, and safety zone posters, provided occupied buildings are on the project. Boundary lines also must be marked by a substantial fence or marker, or a single strand wire, such as is used by the Commission around its refuges; and where the boundary line passes through forest or brush land, briar thicket or high weeds a strip at least 5 ft. wide must be cleared unless it comprises a road or other cleared strip. They must be so brushed or cleared not more than six weeks prior to the open Fall hunting season, so any persons approaching may recognize the boundary. Areas must also be conspicuously posted prior to October 1 with placards placed not more than 100 yards apart, bearing the following warning:

SPECIAL WILDLIFE REFUGE HUNTING IS UNLAWFUL

This Refuge Is Provided So That Wildlife May Have a Place to Escape and Breed in Safety. Entering This Refuge for the Purpose of Hunting or Disturbing Wildlife or Permitting Dogs to Enter is Punishable by a Penalty of Twenty-five Dollars (\$25.00).

The Lands Surrounding This Wildlife Refuge Except Safety Zones are Open to Public Hunting.

Sponsored By

(Name of Sponsoring Organization to be Printed Here)

This Refuge Established to Cooperate with the PENNSYLVANIA GAME COMMISSION

The sponsoring organization in addition to its name may include on such notices the location of its headquarters and the name of the landowner, lessee, or other person responsible for the control of the land so used. The Game Commission is authorized to furnish printed posters with or without charge for the proper posting of such special wildlife refuges and safety zones.

No one may hunt or trap on the refuges except that predators and fur-bearing animals may be removed therefrom by the owner or lessee or other person in responsible control of the land, or by any licensed hunter after he has first obtained a written permit from the sponsoring organization, with consent of the owner, lessee or other person in control. No one is allowed to enter the refuges except for designated purposes. Any person violating the provisions of this section will be liable to a penalty of \$25.00. A penalty of \$10.00 is also provided for anyone who wilfully, negligently or

maliciously cuts, removes, covers up, defaces or otherwise materially injures or destroys any refuge boundary fence, wire, posters, etc.

This feature will give the regularly organized sportsmen's groups of Pennsylvania a chance to sponsor refuges and to help improve wildlife conditions as well as relationships between landowners and sportsmen. The Commission is preparing to cooperate with such groups promptly if Governor James approves Senate Bill 1129.

ARTIFICIAL PROPAGATION OF RUFFED GROUSE

(Continued from Page 31)

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GAME DIVISION OFFICES ANNOUNCED

Consistent with the Commission's reorganization program, regular offices have now been established in the seven divisions as follows: Division A—Frank A. Myers, 436 Penn Avenue, West Reading; Division B—Jay C. Gilford, Wyoming Avenue & Welles Street, Forty-Fort; Division C—John B. Ross, 844 Arch Street, Williamsport; Division D—Wm. J. Davis, 327 Penn Street, Huntingdon; Division E—M. E. Sherman, Centre & Michael Streets, St. Marys, (Medical Arts Bldg.); Division F—Hayes T. Englert, 14 W. 1st Street, 2nd floor, SS, Oil City; Division G—Rollin Heffelfinger, 405 Main Street, 2nd Floor, McClellan Bldg., Irwin, Pa.

The Thirty-Third Annual Convention of The International Association of Game, Fish and Conservation Commissioners will meet at Sir Francis Drake Hotel, San Francisco, California on June 29 and 30, 1939. A large attendance is anticipated.



The Outdoor Man

By G. NORMAN WILKINSON, JR.

Let men slave away their years in a city,
Tied to a desk, fit objects of pity
For men who are born to a life clean and free,
Loving earth, sky, and nature, or Joyce Kilmore's "Tree".

Such men may never be professors or presidents,
But among them are numbered a country's residents.
"Hicks" you may call them, but they have been taught
That the best things in life can seldom be bought.

Every man has a place in the great plan of things,
And I can't help but envy the fellow who sings,
As he swings a keen axe or furrows the loam
On land he is conquering to help make a home.

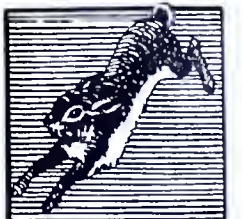
Some call life hard where men work with their hands,
Never giving a thought that the tilling of lands
Made way for the city where they are employed,
Or helped earn the money that they have enjoyed.

But man's life is not drudgery where he can feel,
At the end of a day, the zip of a reel.
And if you should follow you might hear his shout
As he rejoices in the strike of a hard fighting trout.

Survival of the fittest is nature's law every hour,
Among bird, beast, and insect, or even the flower.
Contrast then this law with that of humans,
Whose wars kill off youth and leave only ruins.

Yes! My mind is a-wandering when writing these things,
Of forest and woodland, or a farmer who sings.
As he works hard or plays hard he is always alive,
For he's not too concerned how nations may strive.

So! Sincerely I wish that the "Great God of Light"
Could give every man a taste of this life.
It would mould stronger lives and thus stronger nations,
Of happier souls, with fewer temptations.



Protect **BIRDS**



THEY DESTROY
HARMFUL INSECTS

PENNSYLVANIA GAME NEWS



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SEASONS AND BAG LIMITS SEASON 1939-40

Cooperative Program Goes Forward

WITH the signing of the amendments to the Game Code on June 24, 1939, Governor James made possible another important forward step in the Game Commission's cooperative program with the sportsmen of Pennsylvania.

For a number of years it has been the policy of the Commission to work with the organized sportsmen in every possible manner, and to delegate to them a constantly increasing share of the responsibility for the success of the State's wildlife management program. The Commission has always found that an organization with a real working program is not only a successful one but can do many things in a community which no State agency could hope to undertake.

There is another very important angle to this cooperative method of improving game conditions, namely, the relationships between our sportsmen and our landowners. An organization which works closely with both the landowners and the Commission to further the cause of wildlife restoration does a very important piece of public relations work which the State itself could not do.

The Commission has always encouraged the sportsmen to help locate suitable areas for refuges, to feed game in the winter time, to assist in the control of predators, and to aid in the stocking of such game as was available for distribution.

In 1936, when the Commission launched its cooperative farm-game program and the establishment of propagation areas from which to trap game for distribution, many sportsmen's organizations immediately did their share to assure the success of these new programs. When the Commission made available a source from which to purchase the special food-plot mixture, the organized sportsmen immediately responded, and this spring more than 7½ tons of this mixture have been planted by the sportsmen and the Commission.

Last fall, when the Commission announced its six-week old pheasant program, dozens of sportsmen's organizations arranged to take full advantage of it, and almost 15,000 young pheasants are being distributed to the sportsmen for rearing under that plan. It is believed that when the new special wildlife refuge program, fully explained on page 18 of this issue, becomes fully understood more than half of the one thousand sportsmen's organizations in Pennsylvania will sponsor a series of these special refuges in their own communities, and it is not unreasonable to predict that within five years at least 5,000 such small refuges, especially in the farming regions of the State, will be sponsored and maintained solely by our sportsmen's organizations.

The benefits of these cooperative undertakings will become increasingly evident as the several projects above enumerated are developed. Pennsylvania has long enjoyed an enviable reputation as a hunting state, but as more and more sportsmen's organizations shoulder a larger share of the burden prospects for the future will be still brighter.

Your Publication

The GAME NEWS is now in its eighth printed year with a total circulation of 28,000—large in a way, yes—but not large enough considering the fact that there are more than 600,000 licensed hunters in the Commonwealth.

The magazine had its beginning in a simple mimeographed sheet proposed by Honorable Ross L. Leffler, Commissioner from McKeesport, back in 1925. In that early stage of development it was dubbed TIMELY TOPICS, and served more or less as a "house organ" for the Harrisburg Office, the field organization, and the sportsmen's associations. In July 1929 the name was changed to "Monthly Service Bulletin."

Through the continued interest of Commissioner Leffler, whose boundless enthusiasm helped the editor over many rough spots, the magazine grew larger in volume, more newsy in text, and as a result its name was again changed to the GAME NEWS, in July 1931.

Later, in 1932, it was first published in printed form. That year it started its journalistic career with a total of 2,400 subscriptions; in 1935 it went to 7,000; in 1938 it went to 26,155, and so on to its present circulation as mentioned above.

Many factors have been responsible for the growth of the GAME NEWS, its general contents, and its appearance: first, the sportsmen who subscribe have been helpful beyond words; the field organization has done its utmost to help make it interesting; and the staff at Harrisburg has aided immeasurably to improve it.

However, the building up of the magazine has been an uphill grind, beset with headaches, discouragements, etc., and at this point it is still short of a perfect magazine. Errors creep in notwithstanding our efforts to keep them out.

Despite all these things, however, our periodical has grown, and is growing. We have tried to make it informative, educational, progressive and attractive—we have tried to keep it non-controversial, and in large measure we have succeeded. It has won a place in the forefront of sportsmen's magazines; it has won favorable comment from many publishers, as has its kindred publication, the *Pennsylvania Angler*. It is constantly gaining greater recognition and its contents have been re-printed again and again in similar magazines of other States as well as in much larger publications.

Its value cannot be estimated in dollars and cents, nevertheless, it has a tremendous actual value which, if put into use by sportsmen through the application of the practical lessons it teaches, will amount to far more in dollars and cents in the restoration of wildlife than any other program carried on by the Commission and the sportsmen.



ALL EYES FOR THE PHOTOGRAPHER

Thousands of alert, bright-eyed day-old ringneck pheasant chicks were shipped to Sportsmen's Associations from the State Game Farms this summer.

Ringneck Pheasant Crippling Losses*

By PIERCE E. RANDALL

SINCE July 1, 1938, a year-round study of the ringneck pheasant (*Phasianus colchicus torquatus*) has been conducted by the Pennsylvania Cooperative Wildlife Research Unit for the purpose of securing data which would aid in the management of this valuable game species. As a part of this investigation, mortality factors are being studied and evaluated.

Since pheasants are produced and managed in Pennsylvania mainly for the purpose of harvesting a crop during the hunting season, a large mortality is expected to occur at that time. The actual amount of this hunting season mortality should be known if pheasants are to be managed intelligently. Game kill reports submitted by all licensed hunters provide figures on the total number of birds bagged, but there is a certain amount of mortality associated with hunting which is not included in such records. This is the result of dead birds not found and crippled birds which escape. When birds are knocked down but not recovered, a double loss often results since the hunter naturally goes after other birds and continues to hunt until he has his limit.

Estimates of the magnitude of these crippling losses vary greatly, depending upon the experience and viewpoint of the appraiser. Such calculations have usually been based upon opinions or impressions rather than on actual facts. Errington and Bennett (1933) secured reliable information on small game crippling losses in Iowa. They found that with pheasants a crippling loss of about 50 per cent occurred—that is, for each bird actually bagged another was wounded or killed but eluded the hunter's search. These Iowa data, however, would not apply to Pennsylvania due to lack of similarity of hunting conditions in the two States.

For the purpose of determining with some degree of accuracy the actual percentages of pheasants shot but not recovered, data were secured on the subject during the 1938 small game season. The writer was located in Lehigh County, in the heart of the first-class pheasant range, throughout the entire open season. Aside from personal notes and observations, information was procured from sportsmen co-operators. These individuals kept records of their own bags and losses. They were from many different trades and creeds although the majority were members of organized sportsmen's clubs. Each co-operator was interviewed personally by the author, and the reports used were only from those who actually kept good records. This group was felt to be reasonably representative of the average hunter.

A study such as this is naturally open to certain errors. It is very difficult for a person to tell just how seriously a pheasant is injured when it continues to fly away after having been hit with shot. Birds that were apparently seriously wounded have been known to recover from their wounds. On the other hand, birds that flew off apparently uninjured have been found two or three days later in a dying condition or dead from injuries which were not apparent at first. This often happens when birds have received intestinal or leg wounds. It is felt that these errors may be compensating and so not seriously impair the value of these observations. Occasionally sportsmen capture crippled birds that were wounded by other hunters. These incidents do not affect the quality of the information in this report because the co-operators reported all such occurrences and they were included in the figures.

Crippling loss reports on the ringneck pheasant were procured from 176 sportsmen. These co-operators hunted in Lehigh, Northampton, Berks, Bucks, Montgomery, Chester, Schuylkill, and Columbia Counties. The cooperating sportsmen were roughly classified as veteran, average, and novice, depending on their experience and skill.

The number of birds wounded but lost varied considerably, depending on the hunter's skill, experience, equipment, and the conditions under which he pursued the game. The temperament of the individual also entered into the picture and affected the crippling losses.

The figures obtained from the co-operators revealed that 176 hunters shot 631 pheasants, of which they failed to recover 202 birds or 32 per cent (see table 1). At the same time, they found 15 birds wounded by others and still in a usable condition. Including these 15 birds in the figures, the crippling loss is reduced to 30.4 per cent.

When the figures in Table 1 are examined closely, they show, as

might be expected, that the largest loss of ringnecks was by novice hunters without dogs. Fifty-two novices lost 63 of 135 birds shot or 46.7 per cent. Fifty-two average hunters who lacked dogs failed to bag 70 of 176 birds hit or 39.8 per cent. The 20 veterans who pursued the wily pheasant without dogs reported that they shot 71 birds and bagged all but 19 of these—a loss of 26.8 per cent.

The eight cooperating novices who hunted with dogs lost 7 of 19 birds hit or 36.8 per cent. Twenty average hunters using dogs failed to bag 21 of 88 birds hit or a loss of 23.8 per cent. The veteran hunters with dogs lost the lowest percentage of birds shot. Twenty-four such hunters reported that they hit 142 birds and recovered all but 22, a loss of but 15.5 per cent.

Further examination of the figures in Table 1 reveals that all hunters with dogs secured a much larger percentage of birds shot than did those who hunted without dogs. The 52 sportsmen who used dogs lost only 50 of 249 birds shot or 20.1 per cent, while 124 dogless gun-

TABLE 1.—Crippling loss data

Class of hunter	Hunters	Birds shot	Birds bagged	Birds lost	Percent lost
<i>With dogs:</i>					
Veteran	24	142	120	22	15.5
Average	20	88	67	21	23.8
Novice	8	19	12	7	36.8
Totals	52	249	199	50	20.1
<i>Without dogs:</i>					
Veteran	20	71	52	19	26.8
Average	52	176	106	70	39.8
Novice	52	135	72	63	46.7
Totals	124	382	230	152	39.8
Grand Total	176	631	429	202	32.0

ners failed to bag 152 of 382 birds hit or a loss of 39.8 per cent. The latter is almost twice the crippling loss reported by the men who were aided in their search for pheasants by dogs. *There is no doubt but that the use of well-trained retrieving dogs secures for the sportsman much game that otherwise would be wasted.* A man on foot has a very poor chance of catching a wounded pheasant as the latter can easily outrun a man or can hide so completely as to be impossible to find. Many birds brought down dead in thick cover are never found by hunters who are not accompanied by dogs. Some parties hunting with excellent dogs reported that they recovered all birds brought down and in some instances the dogs captured birds wounded and lost by other hunters.

The figures presented in Table 1 bring out very clearly the value of experience and skill in keeping down crippling losses. In every instance the more experienced hunters bagged a higher percentage of the pheasants hit than did the beginners. There are several reasons for this. Veterans are usually better shots and kill cleanly more often than beginners. Experienced hunters shoot at out-of-range birds less often than beginners. *Extremely long shots result in many winged birds which prove difficult to capture,* especially in dense cover.

Information secured by the writer on the experimental pheasant study area in Lower Macungie Township, Lehigh County, revealed that 222 birds were bagged on the 1,675-acre study tract. At the same time, 129 pheasants were wounded or killed but were not recovered by the hunters. Eighteen wounded birds were bagged on the area by sportsmen (these birds were wounded by others than the persons who recovered them). Including these birds in the totals, 111 pheasants out of 333 shot were left in the fields—a loss of 33 per cent. This figure agrees quite closely with the 30.4 per cent loss reported by the co-operating sportsmen.

Data from the study area revealed that approximately 72 per cent of the unrecovered birds were lost the first day of the open season.

(Continued on Page 31)

* Paper No. 4 from the Pennsylvania Cooperative Wildlife Research Unit. The Pennsylvania State College and the Pennsylvania Game Commission, cooperating with the U. S. Bureau of Biological Survey.
Authorized for publication on June 10, 1939 as Paper No. 908 in the journal series of the Pennsylvania Agricultural Experiment Station.

STEPPING UP GAME PRODUCTION IN PENNSYLVANIA

By JAMES N. MORTON



Hillsides planted to evergreens prevents erosion and provides shelter for wildlife.

Introduction

THE problems facing game administrators today are greater than at any time during the history of the conservation movement in this country.

We have witnessed during the past few years a vast change in the country's social, economic and industrial development. In the agricultural areas we have seen clean farming methods practiced on an extensive scale ever since the World War. We have observed an ever-increasing number of hunters year by year, and the additional leisure time has made it possible for more hours to be spent in pursuing game. Improved roads and automobiles have made it more convenient for hunters to reach field and forest and to cover much larger areas.

Along with the increase in the number of hunters has come more general posting of private property against trespass, which in turn has a tendency to concentrate the hunters on a smaller area; and it likewise has led to misunderstanding and conflict between the landowner and the sportsmen.

The many problems with which game administrators today are faced must mean only one thing—that is, the stepping up of game production if the administrators are to satisfy the great army of hunters who annually look to them for a supply of wildlife necessary to the enjoyment of their sport, and who likewise expect to be provided with ample territory over which to hunt.

Our problems in Pennsylvania are no doubt similar to those in many other states. We have carried on our program of wildlife restoration and conservation for a great many years principally along the lines of game law enforcement, artificial propagation and restocking, and establishment and maintenance of State Game Refuges. While these are extremely essential, yet it has been found during the past few years, on account of present day conditions, that other problems are probably of more vital importance to the success of our wildlife conservation program than are those with which we have been working.

A great deal of effort in Pennsylvania has been concentrated during the past couple years on three of the main lines of endeavor which appear so essential at the present time. They are "improvement of environment," "better farmer-sportsmen relationship," and a "revised

program of propagation and restocking." It is these three phases of our program which I wish to discuss.

Improvement of Environment

On Forest Areas—In our forest areas in the late 1890's, many of the forest game species had been reduced to a record low. Soon after the turn of the century, however, the Commonwealth began to restore its forests by means of sound but simple conservation measures. During the decade extending from about 1910 to 1920, the mountains were covered by second growth forests in the brush stage which offered a maximum supply of the best food and cover for deer, grouse and snowshoe hares. Beginning about 1925 there was a noticeably decreasing food and cover supply for forest wildlife, caused by the fact that the forests were beginning to leave the brush period and enter the sapling and pole stage, wherein the ground growth which furnished these supplies was greatly reduced.

Within the past ten years this situation has become more and more acute. We find today large areas of forest land in Pennsylvania on which the crown canopy of the trees has closed, thereby shading out the understory of tree and shrub growth essential as browse for deer, and necessary in furnishing food and cover for other wildlife. On such areas cutting operations are necessary if each section is to maintain the wildlife population which it can and should support.

The forest district in Pennsylvania which at this time presents the greatest problem as to wildlife habitat lies in the central and northern parts of the State, and in both the Allegheny and Appalachian Mountain systems. Here is range that is, or has been, favorable for the white-tailed deer, snowshoe hare, ruffed grouse, black bear, cottontail rabbit, raccoon, and, in certain sections, the wild turkey.

These lands are owned and controlled by both private individuals and public agencies, including the U. S. Forest Service, Pennsylvania Department of Forests and Waters, and the Pennsylvania Game Commission.

The Pennsylvania Game Commission owns and administers about 600,000 acres of land purchased from part of the funds received from the sale of hunter's licenses and distributed in practically all counties of the State. It is on these lands that most of the actual environmental work has been conducted by the Commission. In addition, improvements have also been made by the Department of Forests and Waters, the U. S. Soil Conservation Service, and by private individuals on other public or privately-owned land.



Turkey Propagation Area in Clinton County, established under the supervision of Game Protector Miles Reeder. These areas are helping improve the stock considerably.

(Condensed from paper delivered at joint meeting of New England Game Conference and Northeast Section Wildlife Society, Boston, Mass.)

STEPPING UP GAME PRODUCTION IN PENNSYLVANIA

The wildlife improvement work on the Game Commission's forest land consists largely of cuttings although numerous shelters and retreats likewise are made in more open woods for protection and for use in artificial winter feeding.

The cuttings undertaken in the forest land development on a fairly large scale, (which began in 1936), are principally of four kinds: namely, release cuttings, slashings, thinnings, and felling timber for sale. Much of the work, of course, is experimental.

(For details concerning cutting operations on State Game Lands to improve wildlife habitat see article by James N. Morton and John B. Sedam in the February 1939 issue of GAME NEWS.)

Evidence of Improvement—On remote sections where slashings or thinnings have so far been conducted a great increase in the number of snowshoe hares has been reported. Evidence such as number of rabbits seen, peeling of sprout growth, droppings, and tracks on treated areas substantiated these reports. Without doubt the fresh cuttings attracted many of these rabbits from surrounding range, but the occurrence emphasizes the need for the renewal of ground cover in second growth stands that have shaded out the understory.

Cottontail rabbits have been observed feeding on treated plots in remote forest areas. In one instance twenty-four rabbits liberated on a recently managed area, which prior to management was practically void of game, bred and restocked the area to such an extent that local hunters were able to take a fair kill the following season.

Periodic reports have been received of broods of ruffed grouse exercising, dusting, and feeding on areas where forest cuttings have been conducted. Such observations indicated the need of forest openings in order to provide for good grouse environment.

On practically all radically thinned areas, released trees and shrubs yield more and larger fruit than similar trees in adjoining untreated stands.

White-tailed deer utilize practically every treated area within the forest range, browsing heavily on sprout growth and on tree and shrub reproduction, and grazing on herbaceous growth. In many regions they are literally kept alive from day to day by slashings. Herds have been known to bed down on slashed areas and feed there for several days.

In many instances deer follow through areas where apple trees are released and pruned, browsing heavily on the discarded twigs. Rabbits remain in the vicinity of apple prunings, which provided food during the entire winter.

The use of the treated areas by forest game is ample proof of the value of cuttings in managing wildlife habitat in a heavily wooded region.

On Abandoned Farm Areas—On the parts of State Game Lands containing abandoned farm land, management work consists of the construction of rail and stake and rider fences in order to break up large open areas into smaller units.



Grain planted broadcast on narrow strips near game cover provides additional fall and winter food for game.



Heavy thinning in forest stand showing resulting undergrowth.

Shrubs and vines raised in the Commission's nurseries are transplanted to fences and fence-rows for the purpose of providing travel lanes and food supplies for wildlife.

Evergreens are planted in blocks and strips to provide cover. Some underplanting of beech and maple forests with Norway spruce is attempted for the purpose of increasing grouse cover.

Strips of grains are planted near fence lines and along other blocks of cover to increase the fall and winter food supplies. In order to simplify this work for interested sportsmen, a mixture of grains for planting was developed after some experimentation in cooperation with agronomists of Pennsylvania State College. Sportsmen's organizations and individuals during the first year the mixture was available planted approximately three tons in addition to that planted by the Game Commission.

A great many artificial retreats and shelters are provided for wildlife on these abandoned farm areas, and in the more open woodlands. These consisted of stone rabbit retreats and brush piled along fences and edges of woodlots. Arbors are also constructed, around which grapevines and bittersweet are planted.

Much of the above is accomplished through assistance given our field men by such relief agencies as the Works Progress Administration, National Youth Administration and the Civilian Conservation Corps.

Farmer-Sportsmen Relationships

The second phase of the program which has been given special consideration during the past two years is improvement of farmer-sportsmen relationships. Our efforts in this connection have been carried on partly through the educational program and partly through what is known as the Cooperative Farm-Game Program.

Through Cooperative Farm-Game Program—This program was inaugurated in 1936 and is intended to improve hunting conditions in the more intensely cultivated and thickly populated sections in the southeastern part of the State, near Philadelphia, and the southwestern part, near Pittsburgh.

The plan calls for the acquisition of the hunting rights, by the Game Commission, for a period of five or more years on a group of contiguous farms including not less than 300 acres.

The purpose is to provide protection for farmers and farm property from unsportsmen-like acts and to improve hunting conditions, especially by opening heretofore closed farms in the heavily populated agricultural sections.

As soon as agreements for leases are secured a number of small refuge units are established. These are located in natural retreat areas where there is good cover such as woodlots, brushy corners, orchards, vineyards, and in some places fields where they will not interfere greatly with farming operations. The Commission, with the approval of the farmer, selects the areas to be set aside as refuges

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HISTORY

By H. P. SHELDON *

UPLAND PLOVER

From atop a favorite fence post the Plover surveys the world about him. Once plentiful these splendid birds are now hard put to hold their own. Whatever gain is made in their numbers in the United States as a result of rigid protection is usually overshadowed by those killed by natives when the birds return to their South American home.

The white pioneers, explorers, and trappers saw such an abundance of game and other wildlife when they came to North America that they could not adequately describe it. They spoke of flights of wild pigeons so tremendous that they "darkened the sun for hours on end," and told tales of bison herds that covered the prairie for mile after mile, and of seeing millions of individual ducks and geese.

Original Wealth in Wildlife

PREVIOUS to the coming of the white settlers, North America possessed an abundance and variety of wildlife not surpassed by any other continent. There were reasons for this: Wildlife, like vegetation, is modified as its habitat changes and it varies in form and abundance according to climate, soil fertility, and altitude. North America, with its crest in the icy arctic and its base in the warm subtropical region of the Gulf of Mexico; with its Rocky Mountains in the West and its Alleghenies in the East; with its arid deserts, fertile plains, and well-watered valleys lying between, has within its boundaries almost every possible variation in temperature, precipitation, soil fertility, and vegetative cover. Altitudes range from ridges that are thousands of feet above sea level to depths of the Death Valley that are actually below sea level. Between the intense sub-zero temperatures of the arctic wastes and the moist, tropical climate of the Isthmus of Panama are recorded infinite gradations of climate and temperature.

This diversity results in amazing differences in the types of both fauna and flora. The tiny lichen clinging to a glacier-scored rock protruding above the arctic ice cap requires half a century for a few inches of growth, while along the Gulf the rank jungle springs up almost as rapidly as the axe and the machete can cut it down. The brown bear of Alaska—the largest meat-eating land animal, and the least shrew, weighing an ounce or less, are alike able to find precisely the conditions each requires in order to live. So does the California condor, the largest living bird, with a wing spread of almost 10 feet, and so also does the wren, scarcely as large as one's thumb. The narwhal, the sea lion, the polar bear, and the manatee, together with thousands upon thousands of other species, have their homes on the shores of a continent where Nature seems to have exerted her limitless capacity for providing accommodation for the greatest possible number and variety of creatures.

Abundance Unimpaired by Indians

Enormous numbers of birds and other forms of wildlife were present despite the fact that the aborigines who inhabited the continent lived principally upon the fish and game. One might think it strange that wildlife should have persisted in such overwhelming abundance under constant utilization for human needs, whereas it declined before another race of men who lived principally upon agricultural products—upon grain, vegetables, milk, and the meat of domestic animals. When we examine the facts underlying this apparent inconsistency we shall find the answer to the conundrum in the different ways the two races used the land.

The American Indians were gardeners but not farmers. In their small primitive plots they cultivated beans, corn, and tobacco, but in such limited quantities that had their families been compelled to depend upon these products alone, they would have starved. For food and clothing they depended for the most part upon wildlife and uncultivated native plants. But the Indian population was sparse and shifting, scattered over the vast area of the New World, their crude agricultural enterprises made little or no impression on the primeval environment so favorable to the production of wildlife. The wild game and fur species, along with the forests, vegetation, rivers, lakes, aquatic and insect life, would soon have appeared unmarked and undamaged by the red man's long occupation of the land.

Exploitation by White Settlers

But after only three hundred years of occupancy, the white man in this country, were he to be suddenly exterminated, would leave behind him enduring scars and open wounds that might never heal. After thousands of years our concrete highways and our cities of stone and steel would be reduced and dissolved to some extent, but the geologist would still be able to find arid wastes, dust bowls, the

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AND SIGNIFICANCE OF AMERICAN WILDLIFE

scarred, eroded, treeless mountain sides, the choked and muddy streams, and the ruined marshland—melancholy monuments of the white man's civilization. The botanist would find valueless species of plant life growing where richly productive vegetation had once flourished, and the biologist would observe rats, cats, starlings, English sparrows, carp, and other such alien creatures usurping a land that was never meant for them. The entomologist would find other devastating evidences of our occupation and husbandry equally eloquent of our careless, wasteful, destructive habits.

That he must never kill for sport was one of the commandments given to the Indian by the God who created the universe, according to the Iroquois legend. He was given dominion over the beasts of the field and the fowls of the air as in our own theology, but it was a provisional custodianship and tolerated neither waste nor abuse. The Indian never shared the white man's conception of sport; to provide meat and fish for himself and his family was a laborious task.

The white settlers and pioneers soon acquired the same attitude, no doubt, for it became the general practice among them to depend upon their professional hunters to bring the necessary supplies of game into the settlements, very much as the citizens of a modern community depend upon the butchers and the meat markets for that type of food. With the occupation of the land by the white settlers, however, wildlife began to diminish. The decrease was imperceptible at first, but it was definite nevertheless, for once the settlers had brought the primitive land under tillage or exploited it by industry, it long remained in that status. As they moved westward the new settlers subjugated more and more of the wild land, and the wildlife that remained in rear of the advancing line of frontiersmen and settlers was forced to adjust itself to a new environment—one that for most species was not nearly so favorable as it originally was.

The fertile ground that for ages had grown crops of wild game and fur animals was now required to grow corn, wheat, tobacco, beans, and cotton, and to support domestic flocks and herds. This condition, disastrous for many species, actually benefited others. The big-game species suffered first and most. While the bison, elk, deer, and bears were extirpated or forced to retire to areas remote from cultivation, some of the smaller creatures, including the quail, the rabbit, the raccoon, and the opossum, found the additional food supply grown by the farmer an encouragement to increase their numbers for a time and to extend their ranges.

Influence of Wildlife on Colonization and Settlement

The abundance of game and fur animals and of fishes aided the pioneers and settlers in establishing themselves in the new land; without it, indeed, rapid colonization would have been impossible. Supplies from Europe had to be brought over a long and hazardous ocean route, a communication line far too tenuous and inadequate to support even the smallest outpost of civilization against the rigors of the wilderness. For a long time after the land had been cleared and crops were being harvested, the settlers still found themselves dependent on the wild game and fur animals for a very considerable proportion of the essentials of life.

The white man's first knowledge of the nature of the great region lying west of the Mississippi came from the beaver trappers, or "mountain men"—the "long hunters"—so-called not because of their lean and rangy appearance, but from their custom of disappearing into the wilderness for months at a time. Resourceful, solitary men, they prided themselves on their ability to do anything that the Indian could do, and do it better. These adventurers were perfectly fitted for the hazardous task of exploring the unknown western wilderness, and the beaver was the lodestone that drew them across the Plains to the Rockies and across the Rockies to Mexico and to the Pacific Northwest. But for these men the entire region of Northwestern United States would now in all probability be held by Great Britain, for they resisted the invasion of the coveted territory by Canadian fur traders and trappers, and thus first established the claim of the United States to the great Oregon territory.

Early Traffic in Wildlife and Its Products

Except for the fur animals and the bison, there was for many years no direct exploitation of wildlife. It was at this time, however, that some of the great American fortunes were founded upon the fur trade, notably that of the Astor family. Their remote trading posts in a few years garnered the wealth of fur and left to posterity scarcely more than scattered remnants of what had been a tremendous resource. The pelts of fur animals and the hides of bison were commodities that would endure transportation from the wilderness to the settlements, but the flesh of game birds and mammals could not be sent back over the long trail.

Killing for the market did not become a serious factor in the reduction of game until stimulated by the growth of cities and towns nearer to the game fields and the development of railways. Traffic in game as food flourished after the Civil War and probably reached its peak in the 80's. During that time uncounted millions of passenger pigeons, prairie chickens, grouse, ducks, geese, upland plover, snipe, woodcock, quail, and other food species were annually sent to market by gunners who, except for a few months in midsummer, shot and snared game the whole year round. It was during this time that the passenger pigeon was exterminated and certain other game species were so badly reduced that they have never since recovered.

The American bison, or buffalo, as the animal is more generally called, achieved military significance in the history of the country. It has been estimated that there were not fewer than 75,000,000 of these animals making up the vast herds that roamed the continent at the time the white man was establishing the first colonies. Buffalo were not, as many now suppose, a purely western species. At that time their range extended clear to the Atlantic seaboard, as did that of the elk. The hide hunters brought the buffalo to the very verge of extinction, and though it seems strange to us today, they had the full consent and approval of the United States Government to encourage them in the slaughter. The buffalo was the Plains Indians' base of supply, and the existence of vast herds on the hunting grounds made the subjugation of the hostile tribes difficult if not impossible of accomplishment by the armed forces of the United States. It was clear to the strategists in Washington that there could be no peace with the Indian and no complete conquest of the rich western lands until the buffalo had been destroyed, for these roving herds were supplying the Indian with nearly everything he needed in the way of food, shelter, and equipment.

The Government accomplished its purposes by aiding the buffalo hunters with free ammunition and supplies and by giving them military protection whenever possible. When the Sharps "buffalo gun" and the skinning knife had finished their work the Indians had been driven into the reservations, and the buffalo—the few hundreds of them remaining—were gathered into preserves, most of which are now maintained by the same Government that a few years previously had so grimly sought annihilation of the animals. There they will remain unless in the unpredictable vicissitudes of time, and occasioned perhaps by the effect of land-utilization practices, great areas of their hereditary range are again restored to them and to the elk, deer, and antelope.

The swift and merciless exploitation of the buffalo only hastened an inevitable process, however, for in time the Indians must have retired before the constantly augmented numbers of settlers and the herds of domestic cattle would then have usurped the buffalo pastures. The history of the decline of this animal furnishes one of the most illuminating examples of the relationship existing between wildlife conservation and land utilization. Years of actual experience prove that these herds on Federal preserves can be increased indefinitely; that the buffalo might even be restored to original abundance locally, provided land were available.

The same is probably true of any form of wildlife. The principle is embodied in the national wildlife-restoration program now being

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JOHN JAMES AUDUBON*



Photo Courtesy of Lynwood M. Chace, New Bedford, Mass.
Baby woodpeckers in shoe.

THE name of John James Audubon has been so long a household word, synonymous with that of the best known bird-painter of his day, and borne by countless Audubon Societies throughout the English speaking world, that this Franco-American ornithologist scarcely needs an introduction. The National Park system offers sanctuary to many of the birds that he was first to name. Audubon Park, in New York City, site of the estate he purchased there in 1841, and Audubon Memorial State Park, Kentucky, also memorialize the man whose love for the wild was almost an obsession.

Audubon paved the way for the international bird treaties signed long afterward by Canada, the United States and Mexico that now protect the resting grounds and the nesting places of migratory birds. Moreover he was the first in America to conceive the idea of bird-banding.

Birdbanding is a form of nature study now familiar to every school child. It consists of trapping birds and holding them long enough to fasten tiny rings of metal on their legs, then releasing them. The purpose is to determine their range and migrations.

Sometime about the year 1804 the youthful Audubon tried the experiment, tying light silver threads to the legs of nestling phoebes whose home was in a cave on the banks of the Perkiomen River, Pennsylvania, and proved that nestling birds will return in future years to breed in the vicinity of their birthplace.

Other naturalists traveled more extensively; discovered more new species than did Audubon, although he penetrated deep into the swamps of the Atlantic Coastal Plain, along the Mississippi and Missouri Valleys, to the lagoons of the Texas and Louisiana shores and into southern Florida. He visited those islands in

the Gulf of Mexico called the Dry Tortugas Keys, which today serve as a bird sanctuary since they lie within Forth Jefferson National Monument. These Keys afford nesting grounds for thousands of sooty terns and noddies, which do not nest anywhere else within the boundaries of the United States. More than 100 years ago Audubon visited the colony and was first to study these interesting sea birds in Florida.

During his Florida explorations Audubon discovered the great white heron, which with a number of other rare species, will find perpetual sanctuary with the establishment of the proposed Everglades National Park. Audubon's travels extended also to Niagara Falls and the Great Lakes, and into Canada. Altogether he named 23 new birds, some discovered in regions where other naturalists had preceded him, but which only his alertness and keenness of observation brought to notice.

His fame as an artist-ornithologist has become a tradition, his very popularity making biographical accuracy difficult, while the strange circumstances of his early years only added to the fascination and color of his life story. There clung to him the aura of high romance. It was openly hinted that the little boy who, at the age of four, mysteriously appeared in the family of Jean Audubon simultaneously with that wanderer's return to his native France after years of absence, and who was received by Madame Audubon with an almost worshipful devotion, was none other than the Lost Dauphin. In comeliness, intelligence and grace the little lad satisfied the popular conception of a prince charming. When he was nine he was legally adopted by Audubon and his wife. On October 23, 1800, he was baptized at Nantes. Inquisitive scandal-mongers, eagerly scanning the register; found only the entry "Jean Jacques

Fougere Audubon. Born in Santo Domingo, April 26, 1785."

Subsequent research has dissipated much of the mysterious glamour. It is now established that the boy was the son of Jean Audubon and Mlle. Rabin, a beautiful Creole, who was an associate of Audubon at Les Cayes, his Santo Domingo plantation. There he had resided, without pretense of conforming to conventional standards, for several years, amassing a fortune as a planter, merchant and slave trader, and keeping on amicable terms all the while with his absent wife, in France.

Upon attaining his eighteenth year Audubon left France for America, going to live at "Mill Grove", the estate near Philadelphia which his affluent father acquired.

Here he led a life after his own heart. Much of the culture and social diversions he had known in his French home could be enjoyed in Philadelphia, which, though no longer the capital of the New Republic, was still the magnet for the intelligentsia, the cosmopolitan and the elite. At his backdoor were fields and forests to satisfy his inborn love of nature, and to invite to the sports he best loved—hunting and fishing. Audubon's handsome person, sophistication and magnetism soon made him a welcome guest among his neighbors. One of these, Miss Lucy Blakewell, daughter of an English gentleman, he found particularly congenial and ultimately married.

Later he persuaded Ferdinand Rozier, a son of a business associate of his father, to become his partner in opening a general store at what was then a rough, frontier trading post, Louisville, Kentucky. Conveying the merchandise purchased in New York, and accompanied by his bride, Audubon set out for their backwoods home, painting glowing pictures of the fortune to be accumulated through barter and sale. But in business matters the young Frenchman was an arrant failure. Such drudgery as shop tending and accounts he left to the patient Rozier—and Lucy. Yet his buoyant spirits, his conversational gifts, his quenchless optimism made him always a welcome companion. His skill with the gun and rod ranked him with the best trappers and hunters on the River. Daniel Boone invited him to take trips with him. The general store was a popular rendezvous for all who loved the wild, even though its diminishing stocks and barren credit left it far behind in the competition which Louisville's mushroom growth soon brought.

By 1810 it became apparent that this competition, coupled with Audubon's erratic notions of shopkeeping were too much to cope with successfully. Loading what was left of their possessions on a flat boat, the firm of Rozier, Audubon and family floated down the Ohio for 125 miles to set up business in Henderson, Kentucky. But Audubon had brought along with the rest of the cargo his Gypsy inclinations. For days he would disappear into the beckoning forests, hot on the scent of rare birds. Only Lucy's expert management and Rozier's unfailing good humor and patience kept the business from speedily foundering. Had Lucy Blakewell had time for the "Journals

* Compiled by the National Park Service, U. S. Dept. of Interior.

ntimes" with which gentlewomen of her period beguiled their leisure, a human document of rare flavor must have resulted. From the hour she left Philadelphia to become a woman of the frontier every event in her calendar was unpredictable but one,—that was the certainty of a steadily mounting monument of debts. Food and friends, however, were never lacking. Audubon's good marksmanship supplied the table amply; his delightful personality attracted a circle of acquaintances, constantly renewed. Among those who visited him in the Kentucky wilderness was Alexander Wilson. He called, casually, to solicit a subscription for his proposed American Ornithology.

Audubon did not subscribe to the expensive work. Nor, according to his biographers, did it occur to him until nearly a decade later that he could capitalize in similar fashion his own much superior talent as an artist, but both Wilson and his friend and biographer, George Ord, openly accused Audubon of stealing the idea which the Scotchman had originated. Audubon also incurred the hostility of another of his visitors destined for later fame. This was the eccentric botanist-naturalist, Rafinesque. The over-credulous scientist never overlooked the hoax played upon him by the prank-loving Audubon in displaying, as specimens of strange birds and fish native to the vicinity, drawings created entirely out of the joker's imagination. In all good faith Rafinesque published description of these "new species," thereby bringing down ridicule upon his sensitive head,—and providing the incorrigible Audubon with one of his best after-dinner stories.

With the move to Henderson, the tides of Audubon's destiny set strongly into new channels. These changes took the guise of irate sheriffs, his own jailing for debts and his later release, upon pleading bankruptcy, with nothing to his name but the clothes on his back, his rifle, and a packet of original drawings. The partnership with Rozier came to an unlamented end, the two parting, nevertheless, the best of friends.

Audubon was now 35 years old, penniless, his wife and children as destitute as he,—ostensibly stranded. Actually, however, these crushing disasters opened the way to his true vocation and lasting fame. He obtained work during the winter of 1819 and 1820 in the new Western Museum at Cincinnati, where he was employed as a taxidermist. Perhaps the atmosphere of learning, and the enduring works of art resur-

rected in his mind the dormant ambition that had stirred within him ten years before, when he looked over Alexander Wilson's portfolio of bird-drawings. At all events, in the autumn of 1820 Audubon set forth down the Ohio and Mississippi Rivers; with the definite purpose of looking for more birds to portray. He paid his expenses by portrait-painting, charging \$5.00 a portrait.

When he reached New Orleans he continued to turn to his art for support, by tutoring and giving drawing lessons. He did not reject the humble task of painting street signs. Lucy Audubon, with never-failing cooperation, helped out the family fortunes by taking a position as governess. In the period from approximately 1820 to 1832 this valiant woman assumed most of the responsibility for the material needs of herself and the children, in order to free Audubon for the pursuit of his dream,—that of producing a mammoth publication of birds drawn from life.

By 1824 Audubon was ready to seek a publisher for his bird drawings. Philadelphia was the logical market for his wares, but when he sought to interest the leading publishing firms there he met with overt or thinly veiled antagonism. George Ord, jealous of the fame of his friend Alexander Wilson, now deceased, lost no opportunity to discredit the man whom he regarded as Wilson's unscrupulous rival. Audubon received encouragement, however, from the artist Sully, who was so impressed with the genius displayed in his colored illustrations that he gave Audubon instruction in the use of oils. It was Sully who urged him to try his luck in Europe,—an undertaking that required the combined savings of himself and his self-sacrificing wife to finance.

But once in Liverpool, Audubon met with an almost instant success. He signed up his first subscriber, at \$1,000 a subscription, and in due course, went on to Edinburgh. Such ovations greeted him there, that Audubon, ever an impulsive child at heart, for a while quite lost his head. He yielded to the temptation to dramatize his picturesque past, wearing the long locks of the traditional American frontiersman, and frequently affecting rusticity of garb. But his undeniable charm and geniality carried off situations that less rollicking souls deemed beneath the dignity of a mature man. Going to London he received less adulation, but succeeded in obtaining the royal signature for his work. With this seal of fashionable approval, the list of subscribers rapidly lengthened. In

1827 "Birds of America" in elephant folio size, appeared. Robert Hovell, Jr., of London, who did the engraving, is said to have reaped world fame, as an engraver in aquatint, through the merit of Audubon's work.

Edinburgh, with its romantic castle towering above the historic city, and the friendly welcome of its people, exercised a fascination over Audubon. He and his Lucy went there in 1830 to live for a time, and to begin the preparation of the text for a new work to be called "An Ornithological Biography." William MacGillivray helped substantially in the undertaking and in 1831 the first volume was brought out, at Audubon's own expense. More financing was required, to continue the series, and the Audubons decided to return to America. Heralded by his European prestige, Audubon was acclaimed the foremost naturalist of the nation. Much publicity was given to his works, and magazines carried flattering sketches of him. At last the congenital rover had justified his wanderings! Lucy Audubon basked in her husband's vindication of his Gypsy propensities. But she agreed with him that he must set forth again into the wilderness in order to obtain fresh material for his books. So once more Lucy relinquished her husband to the companionship of her life-long rival, Dame Nature.

Audubon's travels brought him a new and lifelong friend when he reached Charleston, South Carolina, and spent a month under the roof of the kindly Lutheran clergyman and naturalist, Dr. John Bachman. Eventually the association brought about Bachman's collaboration in Audubon's later work, "Viviparous Quadrupeds of North America." Still closer intimacy was bred of the marriage of two of the ornithologist's sons to two of Bachman's daughters. The name bestowed by Audubon upon one of our rarest songbirds, "Bachman's warbler," perpetuates the friendship of the beloved clergyman and himself.

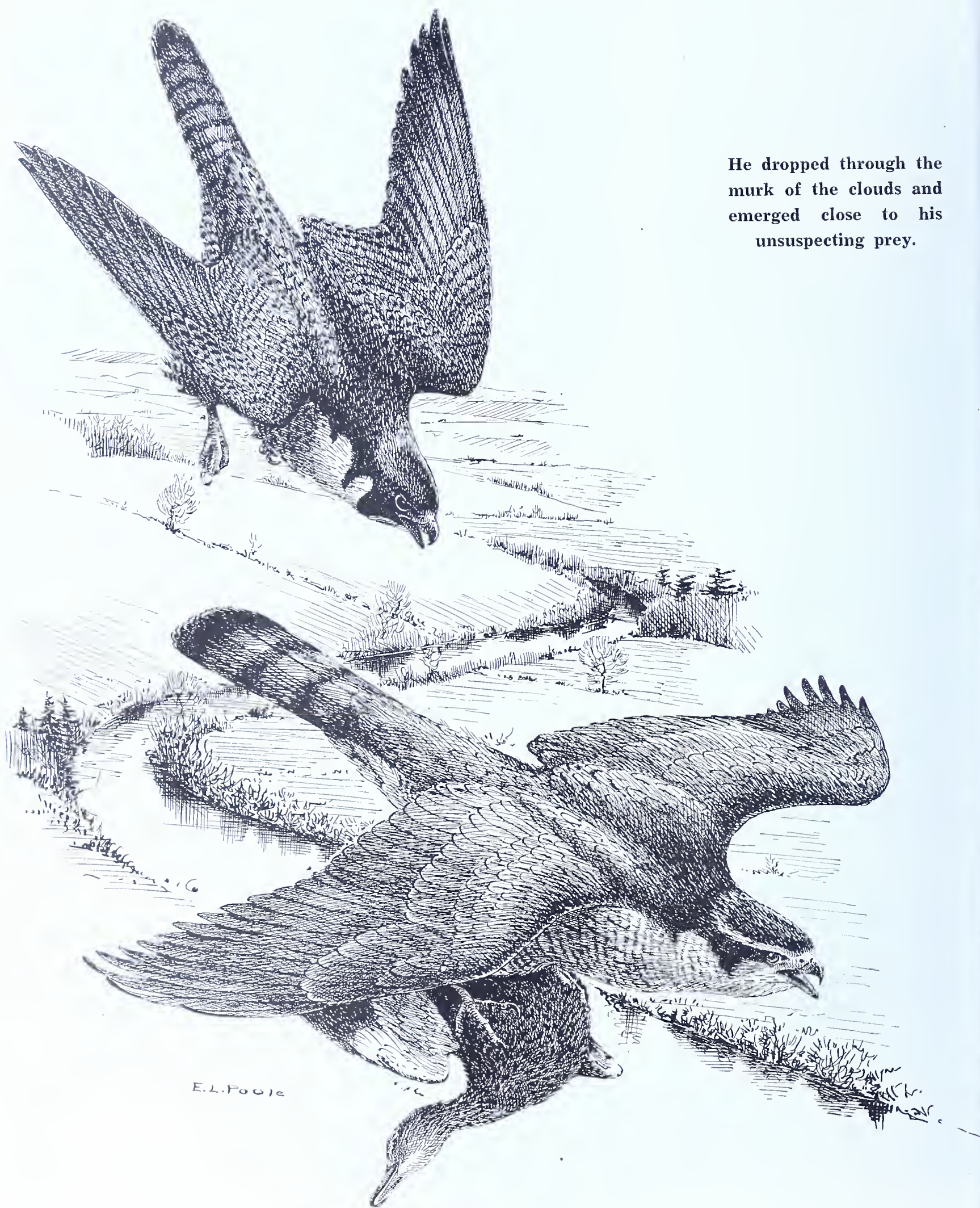
Several European trips were necessary, between the time of Audubon's return to America in 1831, and his purchase, in 1841, of a home on the Hudson, "Minnie's Land", now known as Audubon Park, New York City. Gradually his adventurous life settled into a more normal mold. But when he died, in 1851, at the age of 66, many of his earlier exploits lived again, and still survive in the romantic accounts of the picturesque, irresponsible, sometime swaggering, but always lovable Gypsy-cavalier, John James Audubon.



Portraits of some seldom seen water birds: Left, Horned Grebe; Center Whistling Swan; Right, Loon. All were picked up alive but exhausted and sent to the Commission's offices at Harrisburg.

DEATH OVER PYMATUNING

He dropped through the
murk of the clouds and
emerged close to his
unsuspecting prey.



DEATH OVER PYMATUNING

By N. R. CASILLO

Illustrated by Earl L. Poole

THIN, brittle ice fringed the dark waters of Mud Pond. Dry sedges rustled uneasily in the faint but penetratingly cold breeze. The tall pines surrounding the pond area were somberly silhouetted against a leaden sky and heightened the general atmosphere of bleakness. There were no bird notes. Indeed, not a sound broke the alien stillness except that ceaseless rustling of the sedges.

At the upper end of the pond where the Shenango River wound its sluggish way through the arched branches of naked alders and dumped its stained flood into the darker one of the pond, a black mallard could be seen industriously guttering along the shore ice, loathe to leave the rich feeding grounds even though the flock had gone on some time before.

Throughout her feeding, the mallard, a fine, well-conditioned hen, constantly exercised her inherent caution to the utmost, her beady eyes carefully and frequently scrutinizing the surrounding shore growths as she worked toward the mouth of the stream. Tiny mollusks, sluggish, half-frozen insects and other forms that teemed in the shallows and adjacent weedy shoreline, as well as the roots of various aquatic plants, were avidly garnered by that probing bill.

Then, for no reason at all, except, perhaps, for the unpredictable prerogatives all too frequently exercised by the females of any species, she suddenly uttered a loud squawk, half-fluttered over the water in a sloppy takeoff and straightened out in flight headed north for Conneaut Lake.

Scarcely underway, she quickly changed her course as she thought of a particularly choice spot on Pymatuning Reservoir where a wide expanse of oozy mud under a few inches of water, literally quaked with an abundance of organisms dear to the palate of most ducks. She turned abruptly north-westward and settled down to a pace that would carry her over the intervening eight miles in good time.

The topography of the land over which she sped consisted of scattered farms, patches of timber, cultivated fields and much wasteland, all irregularly pocked with small bogs and ponds. A crazy quilt characteristic of the country.

Approaching the Jamestown-Linesville road she gradually climbed until an altitude of some three-hundred feet had been attained. There she leveled off and proceeded at the comfortable speed of about thirty miles an hour. There was no reason for haste for she had already fed well and besides, it was still early in the day.

However, even though haste was not in order, the mallard's chunky body gradually gained momentum in the sheer exuberance of flight until she reveled in the hiss of the wind as it slid over her hard, well-oiled plumage. Her short wings beat rapidly and yet, apparently effortlessly.

Glancing at an inviting slough lying a little to the north of her course, she suddenly perceived a large bird lazily flying along some two-hundred feet above her and not more than half a mile to the rear. A pang of apprehension shot through her and she immediately stepped-up her speed.

A goshawk, that swashbuckling aerial buccaneer, the boldest, hand-somest and most fearless of the Accipiter tribe, and an early visitor from the evergreen forests of Canada, had been sailing the upper air currents when he spied her. With a breathless dive he dropped to her level and followed, his speed increasing with every wing beat. Of course, his idea was to pick up an easy meal, for the mallard had passed the last piece of water in which she might take immediate refuge. Pymatuning lay more than two miles away.

The mallard whirled on, her neck stretched to its utmost, her wings appearing like twin blurs on either side of the stubby body.

With the wind singing a strident note in the tense feathers of his pinions, the goshawk skimmed through his element at a speed that perceptibly narrowed the gap to his quarry. A quarter of a mile still separated them yet he fixed baleful eyes on the hapless fugitive.

In desperation the mallard redoubled her efforts and plunged along at perhaps a mile a minute. She could now see the gray waters of

the reservoir gleaming with a splash of sunlight that had managed to find a rift in the clouds. In less than two minutes she could plunge into the water and cling to aquatic growths on the bottom until the terror had passed on.

With the certainty of death the great predator gradually but surely gained. His very deliberativeness added to the stark terror of the mallard and she uttered a hopeless squawk as she slanted downward toward the reservoir.

The hawk now stretched his body like that of the duck and without any appreciable increase in wing strokes shot forward with unbelievable speed. In another moment he was just behind and slightly above his victim. Suddenly, without any apparent effort he leaped out of his already brilliant velocity until he hung poised above her. Then as he plunged downward with outstretched talons, he seemed to change his shape, the streamlined body recoiling like a piece of live rubber, spreading out as he prepared to seize her. He struck with the speed of light and both birds plunged earthward in a swelter of flapping and beating wings and loose feathers.

With heavily beating wings the goshawk quickly recovered his balance and made for a dead tree that he had marked. The limp body of the mallard dangled from his claws, her horribly torn sides bearing mute testimony to the killer's efficiency and power.

The aerial tragedy was not without its witness. Sailing through the familiar cold of the air above the cloud bank was another winged predator—a rare visitor to those parts. Somewhat smaller than the goshawk and altogether different in its bearing, he cut the rare air like an arrow, the narrow wings and manner of flight suggestive of speed and maneuverability and all the grace of a pigeon. The American peregrine falcon or duck hawk, for that is what it was, is the American representative of the European falcon, the bird famed in song and story when hawking was in flower.

As it chanced, the duck hawk passed a wide rift in the clouds at the moment that the goshawk struck his victim. In a flash his telescopic eyes had taken in the situation and the brown pupils contracted severely; not in disapproval, but because here was prey and he was famished.

Folding his wings he dropped through the murk of the clouds and emerged a few hundred feet from the unsuspecting goshawk. Marking his prey he quickly spiraled upward into position for an attack.

In the meanwhile the goshawk had spotted the falcon and strove mightily to reach the trees. He could have released his burden, but the trait of a quitter is not a part of the goshawk's makeup. If anything he clutched his prey all the tighter. He did however, realize the futility of his position. Torn between the instinct of hunger and the urge to fight, he chose the latter when it was too late. The duck hawk had started his stoop. *Even had the larger bird released its prey in time, it is doubtful if he could have escaped that lightning thrust,* although in straight flight he is considered by some to be swifter than the falcon.

Just as the goshawk freed himself the smaller hawk struck from the side, his sharp talons squarely striking their mark, a point just back of where the neck joins the trunk. Imagine crashing into something heavier than yourself while traveling at the speed of something over two miles a minute! Such is the courage and hardihood of the peregrin falcon.

The goshawk collapsed in midair like a quail struck by a full load of number eights, the fierce light in the indomitable eyes going out like the flame of a snuffed candle.

In a few seconds simultaneous splashes flashing upward from the quicksilver surface of the water, heralded the arrival of the late victor and vanquished on Pymatuning's bosom.

For some time longer the baffled falcon coursed low over the water attempting repeatedly to drag out one of the victims. At last it gave up and winged off to more profitable hunting grounds.

DRAMAS OF THE WILD...

By

LEO A. LUTTRINGER, JR.

NOT so very long ago a game protector in Pennsylvania, inspecting a wildlife sanctuary, came upon a tragic sight—a deer, its head tightly wedged, or clothespinned, in an opening in the trunk of a large tree, dead from starvation. To the experienced and understanding eye of the official this grim and not altogether unfamiliar picture reaffirmed that which we already knew to be true, that in the domain of the wild, tragedy and disaster stalk the unfortunate, the unwise and the weak; that in nature the great drama of life and death is being constantly enacted, just as it is in man's cities, villages and countryside.

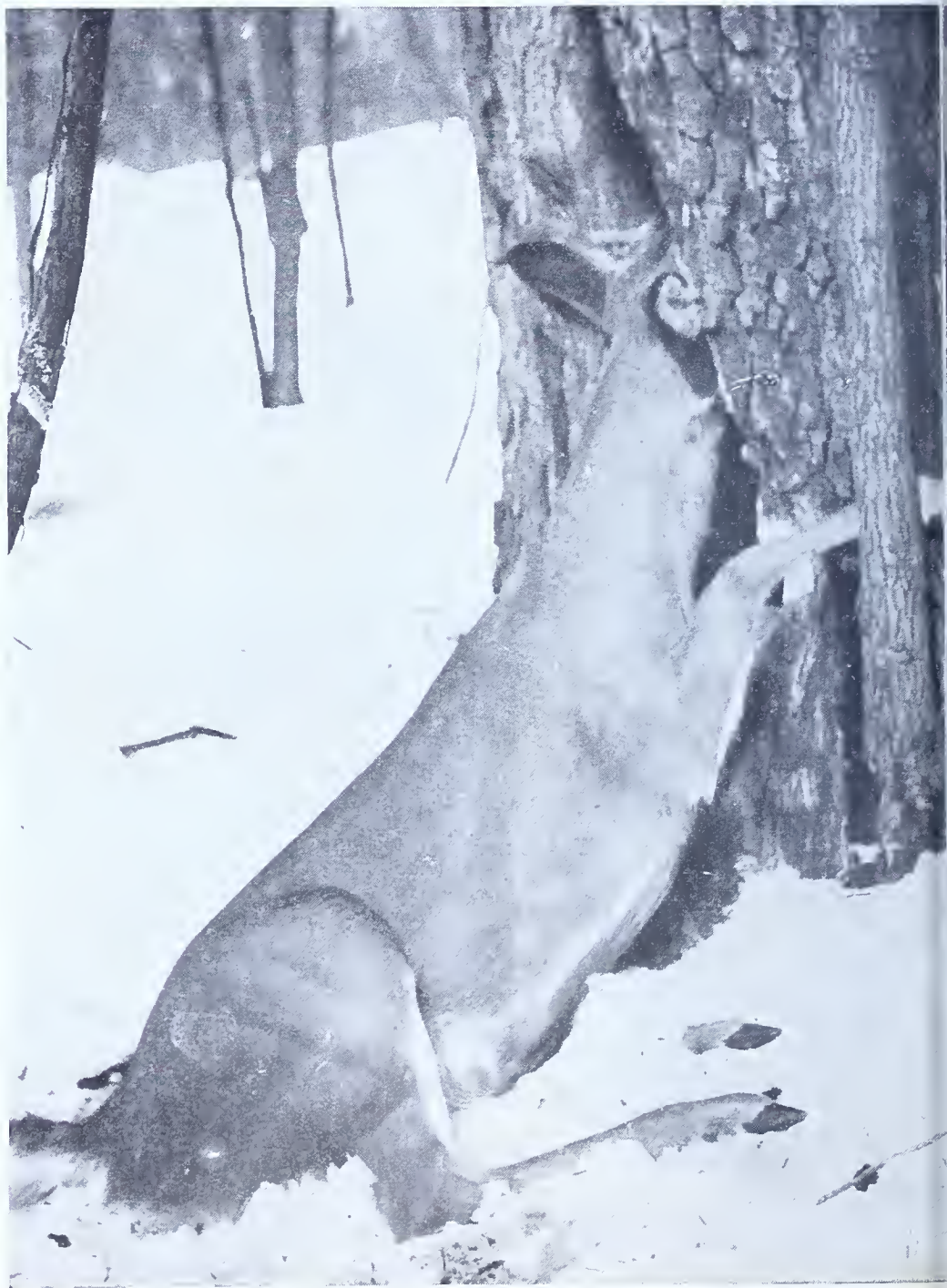
It was not difficult for the protector, wise in the ways of the wild, to reconstruct the tragedy. It was quite evident to him that the deer, young and in good health, had been lured to thrust its head through the wide lower part of the opening by appetizing lichen and ferns growing in the dank soil along the inner base of the tree. Surprised or frightened while thus engaged the sensitive creature did what it is his breed to do, raised his head with such whip-like energy and rapidity that it became wedged in the narrow upper portion of the trunk cavity. Unable to extricate itself, though it struggled valiantly, this splendid but unfortunate animal starved to death.

Unusual? Of course. But only in circumstance. Only the device and the scene form the intricate pattern of drama; the end, or climax, is always the same, sudden or lingering death for some animal, bird, fish, or insect. The setting may be, for instance, as a railroad engineer found it one afternoon through the cab window of his rolling locomotive. His quick eye caught a glimpse of a large deer swinging head down from a high snow fence, as though its hindleg had been caught between the upper pailings. Investigation proved this to be exactly the case. The animal, although quite capable of jumping an eight-foot fence, had for one reason or another failed in this attempt. Its leap had fallen short about twelve inches—just enough to bring death.

Or it may have been the pattern of the pitiful plight of the black bear found hanging from a small maple tree in Pennsylvania. Investigation brought out that the animal had stepped in a fox trap and in a frantic effort to get rid of it had done what most bears will do in times of stress—climbed a tree. But unburdened hind feet are quite necessary to a bear for safe tree climbing, and this unfortunate creature, one hind foot useless, slipped and fell, its head being caught in the crotch of the tree. The climax? Death from a broken neck!

Recently a game protector reported the discovery of a deer hanging by its neck from a large crack in a tree stump. Salt had been placed on the stump, unusually high, and the animal, standing on its hind legs to reach it, no

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Drama ending in tragedy as this deer died of starvation—clothespinned in the crotch of tree and unable to extricate itself.

Photo by Wm. G. Matth

doubt slipped and fell, its weight forcing its neck deep into the crack—a trap from which the luckless buck failed to release himself. Death was from neck injury, aided by starvation.

Accidental tragedies such as these, while possessing greater elements of drama because of uniqueness in device and setting, by no means take the toll of wildlife that may be attributed to the stern and endless fight for existence that goes on in forest and field. First is the drama of the predators—sly old foxes catching and eating unsuspecting rabbits, or tawny bobcats leaping upon little spotted fawns, or a red-tailed hawk swooping down to nab a choice tidbit of a mouse. It goes on all of the time, night and day, perhaps every hour of the night and day. Who knows exactly? Ceaseless is the battle in nature's realm for supremacy as well as for survival. Not so long ago a game protector in an eastern state reported the finding of two eight point buck deer, their antlers hopelessly locked together, still fighting for the right to lead their herd. The protector succeeded in parting them but one was so badly injured that it died almost immediately. But usually animals under similar circumstances are dead when found,—chiefly from exhaustion and starvation.

Man contributes in many ways to the dramas of the wild, mostly by his instinct to hunt and his unfortunate habit of tampering with or destroying altogether the environment so necessary to wildlife. In recent years has come the speed craze and the machines of man are taking a greater toll along the highways and byways than can be imagined by most lay observers. As a sample, Pennsylvania game authorities report that in four years more than four hundred deer were killed by speeding automobiles on a single eighteen-mile stretch of forest highway. In several counties in northwestern Pennsylvania, between July and November of 1937, three hundred or more deer were killed by automobile speeders. The situation is so serious in some parts of the state that game officials have erected large signboards cautioning motorists to slow down and to keep a sharp watch for wildlife. What brings the deer to the highways? There are many reasons, not the least unique and interesting of which is the attraction salt, dropped from ice cream trucks, has for them.

Speeding machines apparently do not frighten them. A game protector in western Pennsylvania reported that a motorist ran into a young buck deer shortly after dark one evening, breaking its leg. The animal hopped away only to return four hours later and be struck and killed by another automobile.

It is also reported from Pennsylvania that from 2,500 to 3,000 ring-neck pheasants are killed by speeding automobiles every year.



Photo by W. T. Campbell
And this dramatic incident also ended tragically as the deer, attempting to jump a snow fence, fell and was killed.



Wisconsin Conservation Commission
Locked in mortal combat—here lies mute testimony of a great battle.

W. E. Dreyer, writing in *Science* a year or so ago, presents an enlightening national view of the destruction of wildlife by automobiles. Arriving at his conclusions by his own observations as well as the studies of others, Mr. Dreyer estimated that more than 7,000 birds and animals are killed every day by automobiles in the United States. These include deer, muskrats, rabbits, skunks, squirrels, turtles, snakes, woodpeckers, flickers, robins, sparrows and a host of others. A 600-mile trip through Iowa revealed 225 dead animals on the highway; a 500-mile stretch through Illinois, Indiana and Ohio revealed 179 animals. Considering these trips and many others, at various times of the year, Mr. Dreyer concluded that the observed death rate per mile per day for wildlife is .0098, a rate which would produce an estimated daily destruction in the entire United States of 7,350 birds and animals.

Starvation is a terrible thing. The helplessness of it and its tragic, slow death make for dramas that are too grim for recital. Particularly during severe winters where food is scarce does starvation among the wild creatures reach appalling gruesomeness. Small game, especially, find it difficult to get food when heavy snow covers the ground. Last year a friend of mine dug out a covey of quail from under six feet of snow drift. They were fortunate and lived. But there were others not fortunate enough to be dug out. They died, of course.

There is another menace that goes hand in hand with starvation—wild dogs. Hundreds of deer and other animals are killed annually by dogs running for the most part in pairs or in packs. If deer and other animals are weakened by scarcity of food they fall easy prey, for it is the manner of the pack to run a deer until it is spent, until it is so exhausted that it is unable to keep to its feet, much less offer resistance. These dogs are usually outcasts, one time house pets no longer wanted and turned out to live on the community. Unless taken in by some dog-loving soul the chances are that the animal will sooner or later join a roving pack of half-wild dogs. Wildlife conservationists can contribute much to the bird and animal life of their community by ridding themselves of these half-savage beasts.

Quite often misguided individuals discover and take home supposedly lost young of wild birds and animals. This is not infrequent

in the case of bear cubs and fawn deer. Here again the stage is set for drama, for the chances are that the cubs or fawns are not lost at all. More than likely the parent attending the youngster has been frightened away by the approach of the misguided individual and will return if the young is not molested. Wild creatures should be left in the woods and fields. They are seldom if ever lost.

The taking of our birds affords more drama, none perhaps more tragic than the fate which befell the beautiful plumed egrets before the national government took action to stop their commercialization to the millinery trade. The law was also needed to put an end to the indiscriminate killing of birds by America's foreign born residents—people who were never made to understand in their native countries the value of bird life. Many were the unique methods used by these foreign born to lure song and other birds into a potential pot-pie—and great was the tragedy.

No one can possibly describe the drama of wildlife in a forest fire. It is too ghastly, unutterably horrible. Countless wild creatures perishing in agony—countless more so frightfully maimed that they die soon afterwards—an equal number so affected by flame and smoke and shock that they fall easy prey to disease, and lingering death.

Perhaps a clearer idea of the tragedy suffered by wildlife when flames sweep forest and field may be found in a 1931 report of an official of the Wisconsin Conservation Commission.

"More than a score of deer were found after the fire," he stated, after investigating a 120,000-acre burn in central Wisconsin. "Undoubtedly, these were only a small percentage of the number destroyed. Surveys made by the Commission determined that sixty per cent of the deer surviving the fire had badly burned feet. One deer was found walking on its knees, and when put out of its misery it was found that both front legs had stiffened in a bent position and that the hoofs and foot bones had broken off. A dog was shot when caught in the act of killing a fawn which had badly burned feet. Another fawn was found dead in a ditch. A trap set near this fawn caught a coyote when he returned to his kill next day.

"For several months following the fire, freshly dead deer were reported both in the fire area and in the district surrounding it. In November a lame deer was gored to death by a herd of cows. Disease resulting from the weakened condition of the deer, due not only to burning but to suffocation from gas and smoke, took its toll during the winter. . . .

"The most abundant game bird in this region was the sharp-tailed grouse. At least one bird out of every four of this species was killed outright by the fire.

"Lack of oxygen, warmed and ash poisoned



Hundreds of deer are killed annually by cars travelling at high speed.

Starvation is a terrible thing—a game protector finds a young deer dead in the snow.





One of the greatest tragedies of the wild is forest fire—countless wild creatures perish.

Below is seen the pitiful baked body of a sharp-tailed grouse—an innocent victim—toll of the merciless fire.



Wisconsin Conservation Commission

water combined to kill thousands of fish. Dead fish were found in all parts of the drainage ditches and in the Yellow River, which flows through the burned area. Dogfish, ordinary one of the hardest fish to kill by lack of oxygen, were found in a helpless condition."

Although lacking the drama of fire, the tragedy of polluted waters is far more harmful to fish and aquatic life, particularly in the East. There are many streams, rivers, lakes and ponds absolutely devoid of fish and aquatic life today—waters where deep, azure pools and white flecked rapids were once the joy of anglers. The sad part of this tragedy is that pollution is so needless. Wastes from pulp and paper mills, from tanneries and from mines are chiefly responsible for the sad plight of inland waters. Perhaps the day is not far away when this waste will be converted into usable by-products, and the streams at last be given a chance to support fish and aquatic life.

Getting back to drama and birds, here is a unique case. Not far from where I live a piece of string found its way to a branch of a small bush. It was difficult to see, even when one was looking for it, but there it was, a veritable trap as it turned out. For a robin failed to see it also and became entangled. A brief fluttering, with death holding the string, and the robin hung itself.

Heron colonies always offer much that is dramatic. During the height of the nesting season it is not unusual for young birds, squirming about while being fed by a mother black-crowned heron, to be forced or pushed out of their high nests. Some land safely on the ground, of course, but more often the little fellows are completely unlucky and are caught by their necks in the small tree branches—to die by hanging.

One of the most needless tragedies where birds are concerned is the unwanted, half-starved house cat—the one that is taken out and dumped along some road to shift for itself. It must eat, therefore birds, particularly songbirds, suffer. Pennsylvania has recently instituted a law invoking a fine of twenty-five dollars for releasing unwanted cats along roads or highways.

And so in nature, as in the domain of mankind, is enacted the great drama of life and death, with disaster constantly overtaking the unfortunate, the unwise and the weak,



The tragedy of polluted waters.

WITH the opening of the training season our thoughts naturally turn to the training and conditioning of our favorite dog and in as much as a dog's training schedule works the same hardship on him as a day in the field, to harden him up for the strenuous work of an all-day hunt (or a good day of training), a good worming is usually not amiss at the beginning of the training season. Care about the dog's diet is especially necessary; most dogs are fed on table scraps, to which should be added at this time raw hamburger plus a tablespoonful of cod liver oil once or twice a week, and a little canned salmon so as to build up the dog's reserve.

It is no more than fair to see that your dog (or dogs) is in perfect health before putting him through a grueling course of training or hunting of grouse, quail or pheasant. Any man who has spent weeks at an office desk, and then goes out for several days afield will inevitably show the effects of strain after a few hours of hard tramping. Then why expect more of your dog, after weeks or months of being housed up, or confined to the limited space of the average kennel? To be absolutely humane, no dog should be asked to hunt more than a half a day, unless given a good rest during the warmer portion of the day. When starting the training a 15-minute run the first few times out is sufficient. If possible, when hunting, it is well to use two sets of dogs, resting one set while using the other.

An unconditioned dog, or one that has not been worked during the entire training season, or given only a perfunctory work-out a few days before the open season, is in no shape to give a good performance or account of himself and as a consequence you both suffer. He can't hold out in heavy cover, but after the initial spurt will begin to dodge cover, hunt listlessly and show distress by hunting water and cool spots with tongue lolling out. Much dissatisfaction of dog owners with their dog is *not* the dog's fault. The owner is probably in no position to give his dog sufficient and regular work-outs under proper conditions. Today there are so many professional trainers whose prices are reasonable, so that every dog should be put through a preliminary course of sprouts under expert guidance—send him to school so to speak.

To put a dog in perfect form, *at least* two month's training during the closing weeks of summer and the beginning of fall are necessary, and the preliminary work-outs should be given in terrain similar to that hunted later on. I do not advise training or conditioning your dog on the same ground every time it is taken out. Vary your locations as much as possible. While dog's have excellent memories, the best of them need to have their previous education brushed up for best results. When a sportsman plans sometimes for weeks ahead for a few day's outing, he should certainly not handicap himself with a dog that is in no shape to hunt. It is advisable not to push the young dog too hard during his training period. Many an otherwise good dog is spoiled by expecting too much from it at the start.

There is nothing more exasperating to any hunter than to have his favorite bird dog break point, creep up, flush birds out of range, bark out of school or tear madly after flushed birds, preventing them settling within reasonable distance. All of these things can and will happen (especially when we have a good friend or two

YOUR DOG

IT'S CARE—HEALTH—TRAINING



Edited by "DAVE" FISHER

CONDITIONING YOUR DOG

along and want to show off our favorite) if your dog has not been properly conditioned and schooled prior to the opening date. Probably after weeks or even months of inactive habits, the jaunt afield tires a man more quickly than he realizes. Handling a gun, the tension and excitement of the hunt, all tend to make him a bit nervous; so he gets up-in-the-air easily, and by yelling conflicting orders, the dog is soon confused and instead of hunting, slinks up to the master, and cowers in anticipation of undeserved punishment. For this reason, this conditioning is absolutely essential. You don't expect to do a good day's hunting if you are over-weight, and short of breath; and if you are at fault, give your poor dog a break and treat him with consideration.

Probably the most damaging scourge that afflicts all dogdom are the various worms and parasites that infect their bowels. During the heat of summer, your dog lolls around, getting little and oftentimes no exercise. If not properly fed, he is prone to develop eczema, his coat becomes mangy, etc., and he is not in shape to stand the punishment of briars, wet cover, streams and burrs. Often cockleburrs will cause infection that is difficult to cure. Avoid extremely starchy and greasy foods during these summer months and keep plenty of cold fresh water before your pal and companion. Many dogs quit cold in the midst of a hunt, when their coats become matted with clinging masses of burrs, which burrow into the tender parts under the legs, or dangle in lumps about the ears, tail, and chest.

On more than one occasion I have seen the real sportsman lay aside his gun and spend the best part of an hour or more with a knife, freeing a distracted setter of punishing burrs that were digging into the flesh in tender spots and wedged between the toes. The setters coat will turn briars, but in burrs the sleek coat of the pointer is better adapted to avoid them. The briars are apt to tear a pointer's tail up, so when the going gets tough I tie up my pointer's tail and cover the end with adhesive or tire tape. They do not like it the

first time, but they soon learn that it will protect them.

For the sportsman who has not made a study of dog foods, it is well to stick to the well-known, tested and properly endorsed commercially prepared rations for sale even in small communities. These foods are properly balanced to build bone, muscle and stamina. Should your dog tire of one brand, it is a simple matter to change off to another. I prefer the meal type, having found it best after numerous tests, although some of you may prefer the canned or the biscuit types. This prepared food can be made more attractive by adding boiling beef, vegetables, fresh milk or buttermilk, or even sour milk, as a bit of variation from day to day. They get tired of eating the same food day after day, just as you would. It is just good common sense to give your dog the best preliminary treatment before hunting him hard.

No man can do a good day's work if his heart, his lungs, his stomach, nose or brain are not functioning perfectly. A dog in poor condition is no different, for when in training or in actual hunting, he is taxing every organ of his body to the utmost. If he is not conditioned and trained to a fighter's edge, he won't be able to act decisively, any more than an athlete would if not properly prepared for a contest. If the dog's condition is not just A-1, the heating up of its blood during the excitement of the hunt is very apt to develop acute symptoms of disease, which may have been lurking in the system, quiescently.

Never ask your dog to hunt on an empty stomach, but the feed before hunting should be limited, so as not to make the dog sluggish; after the hunt, conditioning or training period, if the dog seems to be warm, rub it down with a dry towel, and after a rest it is entitled to all it will eat. If the day is warm, don't work your dog too long at one time, even if it shows a cheerful disposition to do so. If your dog's feet are sore, proper bathing and rest will round them into shape. A soft town lawn or the average kennel yard is not the proper place to harden up a dog's feet for the tough going of hunting fields and coverts. The usual remedy of pine tar and wood ashes should always be preceded by an antiseptic wash, and careful examination to be sure no splinters, thorns, burrs, or bits of rock are embedded between the pads or toes.

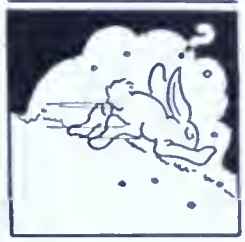
Perhaps I have given too much space to the subject of bird dogs, seemingly neglecting the justly prized hounds. But, outside of the manner of training, what applies to one species, also applies to the others. The ailments that afflict setters, pointers and springers, also assail the beagles, bassetts and other varieties of 'coon, mink, 'possum, skunk, fox and wolf hounds. The hounds are perhaps more apt to have foot ailments, owing to the rougher terrain over which they usually work. If no superficial cuts or bruises are apparent when your dog goes lame, it is well to wash the sore feet in as hot a water as the dog will stand, then give the injured foot a careful examination under a powerful magnifying glass. Small blisters between the toes occasionally are the cause of distress.

Sometimes a foreign substance has burrowed deep into the pad and is not discovered until after a bathing. For muscular lameness, bathing with rubbing alcohol with oil of win-

(Continued on Page 28)



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

JACK RABBITS

Q. Have jack rabbits ever been propagated in Pennsylvania, and what were the results? If not, why not?
J.D.R.—Willow Grove, Pa.

A. Jack rabbits have never been successfully propagated in Pennsylvania. The State has not undertaken the propagation of these animals primarily for the reason that they are undesirable as game, having no food value, and their increase in this State would only mean additional damage to cultivated crops and trees. Some private clubs in southeastern Pennsylvania have imported these rabbits principally for the purpose of training Beagle hounds, but they have not bred and increased. The jack rabbit just seems to disappear in time after being liberated, which is an indication that conditions in Pennsylvania are not right for this type of rabbit.

* * *

SHOOTING CROWS FROM AN AIRPLANE

Q. Is it lawful to shoot crows in Pennsylvania from an airplane?
R.W.—Hanover, Pa.

A. No, it is not. The Game Law makes it unlawful to hunt, take or attempt to kill any wild bird or wild animal through the use of a craft of any kind propelled by mechanical power. This, of course, forbids the use of an airplane for crow shooting. Incidentally, the penalty for using an airplane for this purpose is \$50.00 a day.

* * *

SHOTGUNS LARGER THAN 10-GAUGE

Q. To settle a hot controversy, will you please answer the following question: Relative to the law outlawing the 4, 6 and 8-gauge guns, does this law permit or forbid the use of these guns on predatory animals and vermin, such as foxes, unprotected hawks and owls, crows, blue jays, etc.?
R.A., Jr.—Gwynedd Valley, Pa.

A. The law prohibiting the use of a shotgun larger than 10-gauge comes from the Federal authorities at Washington and applies only to the hunting of migratory game birds such as wild ducks, geese, woodcock, etc. It does not in any manner apply to hunting birds and animals which can be classed as strictly native to Pennsylvania. There is no objection to the use of a gun 8-gauge or larger on such creatures as foxes, unprotected hawks and owls, or any other wild creatures except the migratory species.

USE OF PISTOLS LIMITED

Q. Does the State of Pennsylvania permit the use of an automatic pistol on crows, turtles, snakes and for target practice?
A.O.—Sharpsville, Pa.

A. The Pennsylvania Game Law does not permit the use of an automatic pistol on crows or any other wild birds or wild animals. However, there is nothing in our law to prohibit the use of a pistol of that type on such creatures as turtles and snakes. Under the Firearms Act of 1931, it is unlawful to transport or conceal a pistol in this State without a proper permit. For hunting, fishing or training dogs, you may carry a pistol by first registering same with your county treasurer, the fee for which is fifteen cents when you show him a hunting or fishing license for the current year. However, this registration does not permit you to carry an automatic pistol for hunting wild birds or wild animals, nor will it cover the privilege of using a pistol for target practice. To carry a pistol for target shooting, protection or similar purposes, you will require a special permit from the Sheriff of your county.

* * *

TRAINING DOGS THE YEAR ROUND

Q. Please answer the following question in "Sportsmen's Queries" in the GAME NEWS: Under what conditions can a person train dogs the year round on his own land?
L.F.M.—Chambersburg, Pa.

A. There is only one provision in the Game Law under which it is possible for a person to train dogs the year round, either on his own land or elsewhere, and that is to operate regulated shooting grounds under a special permit issued by the Game Commission for a fee of \$25.00 a year for the first 100 acres and \$5.00 for each additional 100 acres. This permit authorizes the killing of certain game birds on the regulated area, which birds must be supplied by the permittee at his own expense. The birds may be shot from the opening day of the general State-wide season on small game to the following December 31. There is a provision in the law permitting the training of dogs at any time of the year upon premises covered by a regulated shooting grounds permit, but under any other conditions, except possibly a field trial permit for specified days, no dog training is permitted even on one's own land from April 1 to August 20.

"AUTOMATIC PISTOL" DEFINED

Q. Will you kindly inform us as to the definition of an automatic pistol? Which is permissible with a Provisional Firearm Permit, an automatic loading or an automatic firing pistol?
W.M.T.—Pittsburgh.

A. Our definition of an automatic pistol is one which reloads by the recoil caused by the discharge of the cartridge. Any pistol which reloads in that manner must be classed as an automatic, whether you call it an auto-loading or an automatic firing pistol. In other words, no pistol having the automatic feature may be used for hunting wild birds or wild animals in Pennsylvania and a Provisional Firearm Permit in such cases cannot be issued. There is no objection to using an ordinary revolver for hunting purposes under the above permit.

* * *

FROG SHOOTING

Q. Does a fisherman have the privilege of shooting frogs without a resident hunter's license? In other words, does his fishing license give him the authority to carry a gun or must he have a hunter's license also?
C.S.—Federal, Pa.

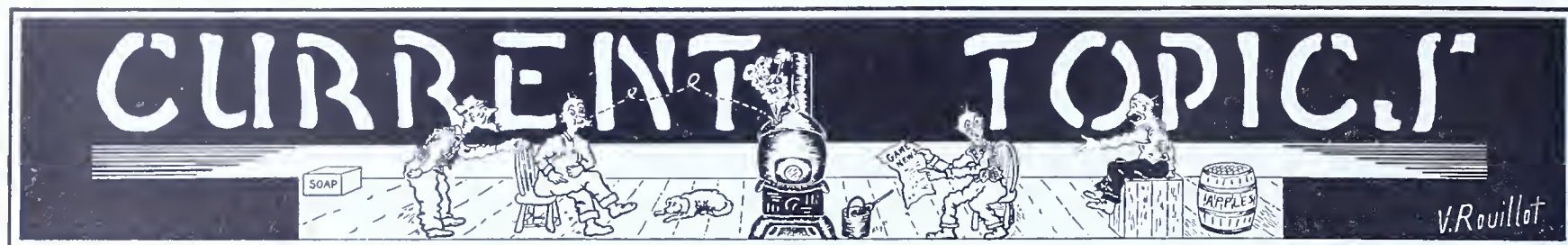
A. It is not necessary to be in possession of a hunter's license to shoot frogs. In the opinion of the Fish Commission, it is advisable to be in possession of a fishing license while engaged in frog shooting, the open season for which is July 2 to October 31, Sundays excepted. We see no objection to carrying a gun for shooting frogs, without possessing a hunter's license, providing you do not shoot at any wild birds or wild animals, and you have a fishing license.

* * *

MALE DEER WITH LONG SPIKES

Q. I have been told that in legal buck season, a spike buck with spikes over eight inches in length is a freak deer, therefore legal. I have never seen such a deer, and would like to know if it is legal to kill a deer with a head like that in a season open for bucks only.
J. McG.—Allentown, Pa.

A. During the regular buck season it is legal to kill a deer with two or more points to one antler. A deer with a spike eight inches long is an illegal deer in the regular buck season if it does not have two or more points or a "Y" on one antler. Regardless of the length of the spikes, a buck is illegal in buck season when it does not have two points on one horn.



SPECIAL WILDLIFE REFUGES

Organized Sportsmen may now promote their own Refuge Projects

Regularly organized sportsmen of Pennsylvania now have authority of law for establishing and managing game refuges on privately owned lands where they can secure appropriate agreements from landowners, or persons in responsible control of the lands so used. This became possible when Governor Arthur H. James approved on June 24, 1939, Senate Bill No. 1129, introduced by the Hon. Montgomery S. Crowe, of East Stroudsburg.

The new Act, No. 361, provides for the creation of Special Wildlife Refuge Projects "as may be sponsored, established, and maintained by any regular sportsmen's organization working in behalf of the public interest and the conservation of wildlife, with the written consent and approval of the owner, or lessee, or other person in responsible control of the land so utilized, to cooperate with the Pennsylvania Game Commission in the furtherance of its game management program." Anticipating favorable action on this bill, the Game Commission on April 12, 1939 agreed to cooperate with sportsmen's organizations to the extent of supplying, free of charge, agreement blanks and posters for both refuges and safety zones for any project approved by the Commission.

It is up to sportsmen to work out their own plans, secure the required written agreements, establish and post the refuges and safety zones, and to provide necessary wire, tools, work, etc., for any project they sponsor. Here is the opportunity for making constructive contributions to the State's wildlife program, and to build up a better bond of friendship between themselves and landowners. The plan is somewhat similar to the Commission's Cooperative Farm-Game Program, the principal difference being that Special Wildlife Refuge Projects will be sponsored and managed by sportsmen themselves.

The Act clearly specifies that land adjacent to each refuge, except safety zones around occupied buildings, must be open to lawful public hunting. Further, the Act provides that no refuge shall contain less than 2 acres, and that not less than twice the acreage in refuges and safety zones shall be open to public hunting.

The minimum permissible area for any one project, providing there are no occupied buildings on the area, is six acres, of which not more than two acres could be set apart as a refuge and four acres open to hunting. So small a project area is, however, of little or no value as a game management project.

It is quite likely, until the plan becomes better known, that one farm may comprise a project. Suppose a farm of 90 acres, with the customary farm buildings, is available. For a farm of that size, at least 60 acres must by law remain open to public hunting. The average safety zone requires about 15 acres,

surprising as that may appear, leaving only 15 acres which could be set apart as one or more refuges. However, the area within safety zones frequently provides protection for a certain amount of game and thus serves almost the same purpose as a refuge.

Any number of adjacent farms, or for that matter woodlands, can be developed into a Special Wildlife Refuge Project since no maximum acreage is prescribed in the law. The Commission's experience with its Co-operative Farm-Game Program indicates that a game management unit of 1,000 or more acres is more economical to manage and develop than 10 one hundred acre separate units. For that reason, it would be well for sportsmen to plan on and work toward project areas of 1,000 acres or more.

The boundary line of each refuge "shall be marked by a substantial fence, or a marker consisting of at least one strand of wire of not less than twelve gauge, or its equivalent if twisted wire is used, which wire shall be supported and stretched so that it shall average approximately 3½ feet from the ground, and entirely surround each special wildlife refuge so established." Where the boundary line passes through forest, brush, weeds, etc., such growth must be mowed to a width of at least five feet six weeks prior to the open fall hunting season. The boundary line shall also be plainly and conspicuously posted prior to October first of each year, the type of poster being prescribed in the law.

Hunting and trapping within these special wildlife refuges is prohibited similarly as is the case for refuges created and maintained by the Game Commission. However, predators and fur-bearing animals may be removed by the owner, or lessee, or other person in responsible control of the land, or by members of his immediate household if such persons are citizens of the United States; or by any citizen to whom the sponsoring organization, with the consent of the owner or person in responsible control of the land has issued a written permit, except that the removal of predators and fur-bearers shall not be undertaken during the month of November.

The owner or person in responsible control of the land may enter a special wildlife refuge at any time of the year for customary or normal activities, and the president or secretary of the sponsoring organization may authorize any other person to enter a refuge for the purpose of improving food and cover conditions, or to feed wildlife, except during the month of November.

The Act provides a penalty of \$25.00 for violating any of its provisions, together with the costs of prosecution. If further provides a penalty of \$10.00 for maliciously defacing or destroying boundary line fences or posters.

A simple form of agreement for use between landowners, or persons in responsible control of land, and sponsoring organizations has been prepared by the Commission and blanks are being printed. Likewise, signs for posting both refuges and safety zones are being printed. When available, the required number for each project will be supplied sponsoring organizations after an application for them has been approved by the Commission, through its Division of Lands. Application blanks are also in the process of printing and will be supplied, when available, free of cost on request of the sportsmen's organization concerned.

NOTES FROM THE FIELD

Refuge Keeper Fuller Coffin, Erie and Crawford County, reports that a WPA worker, while assisting on the construction of a fire lane on Game Lands No. 101 Erie County was half scared to death by repeated attacks of a mother grouse. He was grubbing the lane when the grouse flew out of the brush straight at his face. It made several such attacks then settled in the lane and tried to coax him away from the spot. Other workers came up and upon looking around discovered the young birds.

Refuge Keeper Chester Siegel, Lycoming County, reports that on June 12 he saw a bear on the Pine Creek road at about 9:30 P.M., and that it ran for about one-fourth of a mile in front of his car.

"On June 9 I made a trip to Clearfield for a fawn deer at the railroad yards. The yardmaster called up at 10 A.M. and said the train crew had picked up the fawn near Keating and would be in with it at noon. They fixed up a basket for it and obtained a bottle and milk. When I went there they had it in the cab of the locomotive and it seemed contented in the fireman's arms. It was very weak and in poor condition. We fixed a warm bed for it at the refuge but it died that night. The long train ride of 60 miles must have been too much for it."—Refuge Keeper Clyde W. Decker, Clearfield County.

"While working on Game Lands No. 117 on June 7, one of the men killed a five foot black-snake. When opened he found it contained six grouse eggs ready to hatch."—Geo. E. Kern, Deputy Game Protector, R. D. No. 1, Claysville.

(Continued next Page)

CURRENT TOPICS

NOTES FROM THE FIELD

(Continued)

Raymond H. Sickles, Game Refuge Keeper of Crawford County, reports that apparently raccoons destroyed a great blue heron rookery in that section. Mr. Sickles also claims that an unusual number of duck nests were destroyed this year by raccoons.

John A. Hopkins, Game Refuge Keeper of Warren County, claims that the crop of fawns seems to be about normal this year, notwithstanding the so called slaughter of last season.

At a recent industrial conference held at Conneaut Lake over 240 of the 900 registered visited the Game Commission's Museum at the Pymatuning. There were many favorable comments in regard to the displays of waterfowl and shorebirds.

A great many Refuge Keepers and Game Protectors are reporting an unusual abundance of young rabbits and ruffed grouse.

"I have had several complaints about bears coming out of the woods and causing considerable excitement in the vicinity of Bradford. On several occasions a large bear and a medium sized one have been coming on back porches, upsetting garbage cans taking anything they can find to eat. One evening a lady heard something digging at the screen door; when she opened the door the old fellow was just outside on the porch. It is my opinion that these bears come from the State Park in New York State which is not far away."—Game Protector Wm. J. Carpenter, McKean County.

A deer, which evidently had wandered into Pittsburgh in search of food, was killed by an auto recently on Washington Blvd. It was thought at first that the animal, a doe, must have escaped from the zoo in nearby Highland Park, but no deer were missing from the herd there.

"A large raccoon, carrying the embryos of five young, was killed in Fallenfield Township, Washington County, as she was about to enter an orchard where turkeys were nesting. Previously she killed three hen turkeys sitting on nests.

"Deputy Game Protector Paul Leska, Monessen, Westmoreland County, killed a large porcupine weighing 25 pounds in Rostraver Township, that county. The animal was killed on a hillside overlooking the Monongahela River between Monessen and Belle Vernon a thickly populated section; it was the second time in two years that porcupines were found in this vicinity. The animal killed showed no signs of having been in captivity."—Game Protector Robert D. Parlamen, Washington County.

(Continued on Page 21)

SURVEY REPORTS RESULTS OF WATERFOWL INVENTORY

The trend of the wild duck numbers is still upward, says the U. S. Biological Survey, although the increases of the past four years are showing a tendency to level off and the numerical total is still far below what it was a decade ago.

Officials of the Biological Survey recently compiled a report of the Bureau's continuous studies of the waterfowl situation during the past year. These studies culminated in the annual midwinter inventory in January during which observers reported about 14½ million birds, as compared with 12¼ million last year and 9½ million in 1937. The Bureau estimates that the inventories covered about 25 to 30 percent of the continent's waterfowl.

These results, according to the Biological Survey, indicate that it is possible to maintain an adequate continental supply of migratory waterfowl. The requisite is sound management. This involves restoration and conservation of water fowl habitat in breeding, migration, and winter ranges, coupled with enforced regulations on hunting. Intelligent management, the Bureau points out, requires a basis of fact. It is for this reason that careful investigations are carried on annually. The findings are used in drafting hunting regulations.

Though the gain in numbers is gratifying, the Bureau reminds sportsmen that waterfowl populations are still far from recovery. The last four midwinter inventories show only that the birds are beginning to respond to treatment. "Further improvement to bring the birds up to normal numbers depends upon continued cooperation in the restoration program," the Bureau adds.

The January inventory is the result of simultaneous observations made throughout the country by the Biological Survey's corps of field workers and qualified volunteers. These observers are under the leadership of the Bureau's 10 regional directors. Full cooperation is received from the Army Air Corps, Naval Air Service, Coast Guard, Forest Service, Soil Conservation Service, National Park Service, State forestry and game and fish

departments, private agencies, and others.

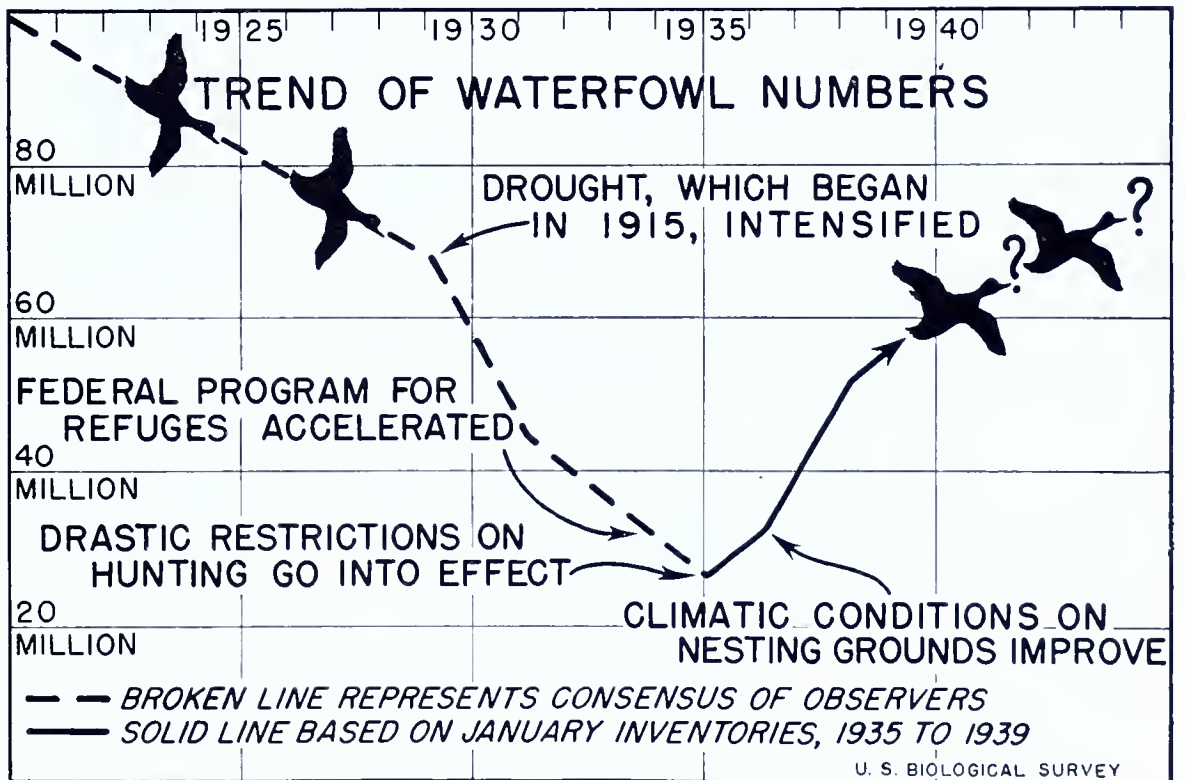
Even airplanes and snowshoes are used to transport observers to the waterfowl areas. One regional director enlisted the services of 11 planes, 3 blimps, 18 powerboats, and 28 cars, with a total of 240 observers. One resourceful agent used a locomotive on a waterfowl area crossed by rails.

Though 2¼ million more ducks were noted this year than last, the ratios between figures for all species were not the same. Observers reported decreases in a few species. Important gains were noted in mallards, black ducks, pintails, baldpates, and scaups. Particularly encouraging, the Survey said, was a substantial gain in the number of redheads. Geese showed a decrease, a small increase in Canada geese being offset by a considerable decrease in blue geese.

Midwinter inventories are preceded by three other seasonal investigations. The northward movement of birds during spring migrations is observed by the Biological Survey's corps of volunteer cooperators stationed throughout the four principal flyways. In fall, the observers note the birds' southward movements. In summer four naturalists of the Survey conduct investigations in the breeding grounds.

Called flyways biologists, these naturalists make year-round studies in each of the country's four major waterfowl flyways, following the birds' migrations and also observing conditions on both the breeding and wintering grounds. The January inventory is the climax of the year's activities in waterfowl population studies.

Continuing these investigations, the Biological Survey is now sending its four biologists and their parties to Alaska and Canada where they will again study conditions on the principal waterfowl breeding, feeding, and resting areas. If conditions on the breeding grounds are favorable the Bureau officials expect further improvement in the waterfowl populations. "But," they add, "you can't count ducks before they are hatched."



CURRENT TOPICS



Young Long-eared owls. The Long-ear is decidedly beneficial.

More than 200 kinds of plants and animals are eaten by game ducks in the United States and Canada, according to the U. S. Department of Agriculture. Analyzing almost 8,000 stomachs of 18 duck species, Biological Survey scientists have found that about three-fourths of the food content is plant material. Pondweeds, bulrushes, and smartweeds rank first, second, and third, respectively, in the plant food list, while snails and insects head the list of the animal foods.

Basing their findings on almost 40 years of research by Biological Survey workers in the field and laboratories, the authors, A. C. Martin and F. M. Uhler, discuss each game duck food in detail showing among other things its range, value, and means of identification; the best methods of propagation, harvesting, and storing; and favorable and unfavorable factors in waterfowl foodplant culture.

"Food of Game Ducks in the United States and Canada," Technical Bulletin No. 634, may be obtained at 40 cents a copy from the Superintendent of Documents, Washington, D. C.

Knowledge of the feeding habits of wild ducks is essential to success in restoring and conserving these birds, says Dr. Clarence Cottam, of the U. S. Biological Survey, author of a technical bulletin, "Food Habits of North American Diving Ducks," recently issued by the U. S. Department of Agriculture. This valuable publication known as Technical Bulletin No. 643, may be obtained at 30 cents a copy from the Superintendent of Documents, Washington, D. C.

Game prosecutions for May totalled 120 and penalties collected amounted to \$2,160.00

Hundreds of game food plots have been planted by interested sportsmen and field officers of the Game Commission during the past spring. Approximately 7½ tons of the Pennsylvania Game Food Plot Mixture was planted, and in addition to this many other grains were used to provide additional plots. These food plots are necessary to create an adequate supply of game food to guarantee the well-being of broods hatched in the wild. With many food plots located adjacent to good cover throughout the State the chances of survival of liberated birds are also much improved.

The Pennsylvania Food Plot Mixture which was planted provided an area of approximately 750 acres, which was placed in many small patches throughout the State. The yield in game food of the above mixture which was planted should be approximately 400 tons from the 7½ tons which were planted. More than two million game food and cover producing trees, shrubs, vines and cuttings were planted during the past spring.

During May the Commission acquired title to 56 tracts of land totalling 20,187 acres.

The mourning dove, one of the most popular game birds of the South, recently has been the subject of research by scientists in Alabama. Findings show the bird to be almost a complete vegetarian, using legumes and various grains as the main items of diet. Specimens were collected at feeding areas or watering places to obtain information as to the foods that cause the birds to concentrate in large flocks in fall. In addition to laboratory analyses, field studies have revealed interesting characteristics of the dove's feeding habits. Year around observations in Alabama have shown the bird to be a powerful flyer, capable of traveling great distances for food. The speed in flight is also partly responsible for its attractiveness as a game bird, the Biological Survey states.

Summary Statement of Bounties Allowed on Noxious Animals During the Fiscal Year—June 1, 1938—May 31, 1939

Counties	Great Horned Owls	Gray Foxes	Goshawks	Weasels	Amount
Adams	2	133	1	470	\$773.00
Allegheny	2	81	...	408	532.00
Armstrong	14	123	...	862	951.00
Beaver	3	54	...	204	324.00
Bedford	24	275	...	364	1,330.00
Berks	a 9	102	...	858	854.00
Blair	4	146	...	569	876.50
Bradford	b 86	130	2	1,113	1,242.50
Bucks	4	198	3	752	1,182.00
Butler	22	158	...	1,072	1,212.00
Cambria	3	137	1	1,324	1,218.00
Cameron	2	230	...	14	931.00
Carbon	4	53	...	304	372.00
Centre	c 16	384	2	630	1,885.00
Chester	1	18	...	543	345.50
Clarion	d 36	72	...	1,026	870.00
Clearfield	38	384	1	1,371	2,299.50
Clinton	6	671	...	282	2,837.00
Columbia	7	56	1	636	558.00
Crawford	e 100	32	1	2,079	1,359.50
Cumberland	7	51	...	385	410.50
Dauphin	9	145	...	680	938.00
Delaware	...	...	...	73	36.50
Elk	f 14	157	3	859	1,089.50
Erie	g 65	5	...	1,559	925.50
Fayette	2	360	...	668	1,778.00
Forest	11	20	1	285	246.50
Franklin	7	96	...	373	584.50
Fulton	h 13	79	...	107	394.50
Greene	i 40	74	...	99	413.50
Huntingdon	12	308	1	480	1,498.00
Indiana	j 16	145	...	1,177	1,196.50
Jefferson	k 20	99	4	1,244	1,064.00
Juniata	2	112	...	232	568.00
Lackawanna	8	121	1	250	627.00
Lancaster	...	147	...	810	993.00
Lawrence	l 10	24	...	418	324.00
Lebanon	...	47	...	170	273.00
Lehigh	2	18	...	357	254.50
Luzerne	4	187	1	1,040	1,278.00
Lycoming	11	400	5	604	1,934.00
McKean	24	198	...	1,011	1,345.50
Mercer	m 23	42	...	1,231	829.00
Mifflin	3	135	...	186	630.50
Monroe	10	96	3	243	531.50
Montgomery	...	86	...	387	537.50
Montour	...	1	...	103	55.50
Northampton	...	49	2	361	380.50
Northumberland	3	31	...	393	326.50
Perry	5	114	1	305	620.50
Philadelphia	...	8	...	19	41.50
Pike	n 15	243	1	59	1,031.50
Potter	67	110	3	236	698.00
Schuylkill	o 27	179	...	921	1,220.50
Snyder	5	40	...	243	291.50
Somerset	6	350	...	1,509	2,166.50
Sullivan	10	92	4	503	647.50
Susquehanna	p 37	270	3	512	1,410.00
Tioga	q 33	144	1	288	786.00
Union	2	71	...	95	335.50
Venango	r 30	104	1	975	961.50
Warren	s 80	56	2	1,136	955.00
Washington	t 4	145	...	245	708.50
Wayne	7	340	2	290	1,523.00
Westmoreland	9	270	...	1,221	1,708.50
Wyoming	8	113	...	254	595.00
York	2	113	1	1,390	1,153.00

Totals	u 1,046	9,432	52	40,867	\$60,269.50
F-Fledglings—A-Adults			1	recertified	1.00

\$60,270.50

a 1F-8A	f 2F-12A	k 2F-18A	p 6F-31A
b 10F-76A	g 4F-61A	l 1F-9A	q 2F-31A
c 2F-14A	h 1F-12A	m 9F-14A	r 4F-26A
d 3F-33A	i 12F-28A	n 2F-13A	s 1F-79A
e 10F-90A	j 4F-12A	o 10F-17A	t 2F-2A
u 88 F—958 A		Number Claims—19,307	

"While engaged in routine patrol work and crow hunting during the month of May, 1939 I found locations where Black-crowned Night Herons were nesting in various parts of the county. One of the largest heronries of these birds is located in Valley Forge Park and another large heronry is located in a woodlot adjacent to the park area. Other nests were found in various smaller woodlots within a few miles of Valley Forge Park."—Joseph A. Leindecker, Game Protector, Montgomery County.

CURRENT TOPICS

NOTES FROM THE FIELD

(Continued from Page 19)

Refuge Keeper R. H. Morningstar, Lycoming County, had a forest fire on Game Lands No. 75 on May 15 and 16 which burned approximately 750 acres of game lands, including about 50 acres of one of the game refuges.

Refuge Keeper Morningstar has a WPA project on the lands and has made the following report in connection with the fire: "About one week after this fire had burned I had a crew of WPA men planting grape cuttings on the burned area. These men reported to me that they had found two dead deer that had been burned and ten grouse nests. Several days later I made an extensive survey of the portion of the fire upon which the men had not planted grape cuttings. I found twelve additional grouse nests with the number of eggs ranging from three to fifteen. It is only reasonable to suppose that some of these nests had been robbed to some extent by predators, as this was several days after the fire had burned. The nests were in many cases near a stream or swamp. I broke a number of eggs and found that they were almost ready to hatch. No dead birds were found. After having been on this fire and having seen it burn, then making a trip over it and finding these grouse eggs burned, and along with the damage to food and cover, it is very hard for me to see any possible benefit that can be derived from a forest fire. In addition to the twenty-two grouse nests, there was also found two deer, one rabbit and one opossum on part of the area."

"On May 1, 1939 I observed a crow that had taken a good sized rabbit from its nest and was killing it. By the time I got to the place the crow had carried the rabbit away and had returned to the nest searching for another. I promptly dispatched that bird."—Game Protector Philip S. Sloan, Luzerne County.

"There were 11 deer killed on highways and railroads during May in Elk County."—Game Protector Edward L. Shields, Elk County.

"Fire crews working in this section report that great numbers of grouse are seen flying up in front of the forest fires in this locality; likewise they are reporting many nests with the eggs burned and cracked. It is my belief that forest fires this year have taken toll of hundreds, if not thousands, of grouse eggs in this section."—Game Protector Clyde E. Laubach, Clinton County.

"On Sunday, May 7, 1939 Mr. Howard Jones, Philipsburg, and James Tuba, Brisbin, were enjoying a boat ride on Black Moshannon dam when they noticed a woodchuck that apparently was trying to swim across the dam and became exhausted. The first thing it came to was their boat whereupon it promptly climbed aboard, sat on the front end, and accompanied them to shore. This incident was witnessed by Mr. Cletus Kephart, Hardware merchant of Philipsburg, who told it to me.

"I found two Ruffed Grouse nests, one with 10 eggs and the other with 9 eggs."—Elmer J. Turner, Game Protector, Centre County.

While visiting Refuge No. 508, supervised by George W. Koehler, the other day he told me about a pet chipmunk that would swing on an ear of corn in his back yard. The corn was fastened just high enough that the little fellow had to reach on its legs for it, and after he had eaten as high as possible he would crawl up to the top and work downward. In the latter operation, however, he would sometimes forget to hold on with one of his front feet and in his greediness try to stuff both pouches at the same time, consequently he would fall to the ground head first. Then he would get mad and jump at the cob and hang on, swinging back and forth like a child at play.—THE EDITOR.

"Having had a beaver damage complaint the past week at a pond not far from Hawley, I took two live traps to the place and proceeded to set them near the beaver house. While occupied in setting the traps, I noticed two very small beavers swimming around the house. They would poke their noses out of the water and look at me with a mild expression that denoted no fear at all. I think it was the first time the little animals had been out of the house. As one came up at my feet, I reached down and picked it up. It offered no resistance and in a little while I replaced it in the water and it leisurely dove in the beaver house. I lifted the traps and will wait for several weeks until the youngsters are old enough to move."—Game Protector Samuel K. Weigel, Wayne County.

A 400-pound black bear operating in the vicinity of Little Bear Creek and Red Ridge Creek, 15 miles northeast of Williamsport, was reported recently to be terrorizing early summer campers of that locality.

Local game protectors received three complaints since May 28 of attacks the bear has made upon cottagers. In every case the animal was interrupted while raiding cabin refrigerators.

Guy Wheeland, Williamsport, camping near the mouth of Little Bear Creek, was the first to sight the large animal. It drank four quarts of milk and stole a four-pound beef steak after tearing out an ice box he had buried in the ground.

On Memorial Day, it threatened Russel Woolver, tearing off a screen door in its attempt to rush him.

Sunday morning, its activities at the cabin of Police Captain Joseph M. Schumucker, Williamsport, aroused that officer and his family. The captain surprised the animal at the refrigerator, fired a revolver at it and was then chased by the bear. He escaped injury by darting into the cabin door.

"I recently noted in a Bank Cedar tree about 12 feet from the ground quite a collection of sticks, hair and feathers topped by a mound-shaped nest of similar materials, and mud. My curiosity was aroused and I spent time enough there to definitely ascertain that English Sparrows and Robins were nesting and living in practically the same quarters. Apparently both seemed satisfied to let the other alone."—Game Protector Thomas F. Bell, Huntingdon County.



Photo by John H. Lohmann

A wild raccoon is attracted to the home of Prof. Frank V. Stutsman, Twin Lakes, Pike County, by choice tid-bits the Professor places on the window ledge for it. If no food is left on the sill the animal will tap on the window until it attracts someone's attention. Sometimes it even ventures into the room where it will feed from the Professor's hand or take food from his guests, going from one to the other; several other 'coons also come for food but are afraid to enter. They grab it and run for their forest home.

WITH THE CLUBS



On May 14 the Huntingdon County Game, Fish and Forestry Association held its annual picnic at the Greenwood Nursery. They planted Chinese Hairy Chestnuts. In 1938 about 5,000 nuts were planted, and in April 1939, 4,000 young trees up to two feet were distributed to members and camps for planting in woodlots and forests of the county. Herbert E. Watts and S. Howard Fisher, President of the Association originated the idea. This year over 16,000 nuts were planted and their goal is 50,000 by 1942.

The Schuylkill County Chapter of the Izaak Walton League recently completed plans to take over Camp Blue Mountain, an area of 85 acres, as a wildlife sanctuary. The Chapter also plans to raise several hundred ringneck pheasants and to sponsor an N.Y.A. project to construct propagation dams which will be large enough to rear 10,000 trout.

The United Coon Hunters' Association of Pennsylvania announces the holding of the Sky Top Coon Hound Field Trial on August 26. For further information contact F. S. Ambrose, Box 164, Wall, Pa.

Laurels in the Sixth Annual North-South Skeet Championships held at the National Club at Washington, D. C., June 3 and 4 went to a man from Laurel, Md. The victor was none other than R. Watson, who was high gun with 150 straight.

The Pennsylvania State Archery Association just came out with the first issue of P. S. A. A. news bulletin, a monthly publication devoted to the interests of all Pennsylvania archers. If you are interested in archery and wish to become a member of the association, contact Clayton B. Shenk, R. D. No. 3, Lancaster, Pa.

The Keystone Game, Fish and Forestry Protective Association, of Shamokin, conducted a very interesting essay contest among the school children of Northumberland County on the prevention of forest fires in collaboration with Forest Inspector R. J. Startzel, of that city. The cooperation received from the principals and teachers was excellent, and by the closing date of the contest over 100 essays were submitted. Prizes and medals were awarded to Miss Ethel Haas of the Academy School of Shamokin and to Misses Betty Cahoon and Irene Walinski of the Mt. Carmel High School.

A member of the Sweet Valley Fish and Game Protective Association, by the name of Thomas Jones, of Sweet Valley, Luzerne County, sat a Rhode Island hen with 23 Ring-neck Pheasants eggs, hatching 22 and raising the whole hatch.

The Rillton Sportsmen's Association, Westmoreland County, organized in December, 1938 is an up-and-coming club. Within three months the association released six crates of rabbits and is doing everything possible to better local hunting conditions. Meetings are held at Rillton, fourth Friday of each month. Anyone wishing to contact the association should write to Gilbert Webberking, Recording Secretary, 633 Fifth Street, Donora, Pa.

Mr. John Quinn, President of the Matamoras Rod and Gun Club, writes as follows: "A delegation of the American Legion Drum Corps of Matamoras, returning from Memorial Day services at Bushkill, discovered a fine buck lying in the road near the Model Farm with its front legs broken and helpless. The animal had been struck by some careless motorist, who left it lying in the middle of the highway, creating a hazard to following cars, as it was about 10 P.M. and dark. My car was stopped by the boys who found the deer, and I saw to it that the creature was put out of its misery and then turned over to the local Protector, John H. Lohmann. It seems a shame that our deer should be maimed and killed, as rabbits and other small game animals and birds are, by careless drivers who care nothing for the wildlife of our Commonwealth."

Congratulations to the Chester County Rod and Gun Club on its printed bulletin of which Norman M. Wood, who served with the Game Commission in various capacities for many years, is Editor.

NEW CLUB

South Side Conservation Club, Catawissa, Pa. Secretary—Robert H. Van Sickle, Catawissa, Pa.

The Pleasant Gap Sportsmen's Association, Center County, is carrying on a splendid program of wildlife conservation in that vicinity. It sponsored a Junior Association, which made shelters and distributed approximately fifty bushels of corn last winter. The club also assisted Game Protector Edgar Woodward in the trapping of game on the lands of the Rockview Branch Western State Penitentiary.

At a recent meeting the Field and Stream Association of Lebanon County decided to incorporate. Membership buttons will also be purchased and distributed among the members. The club expects to build a number of wildlife feeders for distribution throughout the county this fall and also plans to award prizes to anglers catching the largest bass, pike and sunfish.

The Adams County Fish and Game Association is planning to purchase a tract of land and erect a club house and shooting range.

The Consolidated Sportsmen of Lycoming County will hold its annual sportsmen's picnic at Shore Acres, north of Montoursville, on July 26. At a recent meeting the association reported having distributed 18 flushing bars among local farmers. The club expects to operate eight or ten propagating areas of 10 to 20 acres each under the new special wildlife refuge program provided for in the new Game Code.

The East Fork Sportsmen's Association, of Potter County, is to be highly congratulated for the interesting bulletin which it releases monthly for the benefit of other clubs in that county. I see by the May issue that the association expects to hold its annual picnic and shoot at Terry Springs, July 9. Everybody is welcome. Evidence of the interest expressed in the club's house organ is shown by the fact that a former Potter County sportsman, Walter R. Gough, now at Washington, D. C., is donating a larger and better mimeograph for the publication. The club is also planning to form a junior organization.

The Tamaqua Rod and Gun Club built several large feeding shelters on its propagating area in Owl Creek. The shelters are kept well stocked and are used regularly by rabbits and grouse.

WITH THE CLUBS



On Saturday afternoon, May 27, upon hearing a noise in the leaves and brush, we investigated and discovered a grouse having some trouble with a big blacksnake that had decided to rob her nest. The snake was coiled on the nest and had already eaten one egg, perhaps more. After killing the reptile, which was well over five feet in length, we looked for another but found none. When we left the nest it had seven eggs in it.

Less than half an hour later we found a second and somewhat larger blacksnake on the same nest and it had eaten three of the eggs. Needless to say we killed it. The grouse had her nest at the base of a pine tree within view of our cabin. Picture above shows L. E. Moberly, of Wilkesburg, holding the first blacksnake that was killed. Photo taken at our cabin located about six miles east of McAlevy's Fort, Huntingdon County.—Mrs. Herbert P. Peters, Wilkesburg, Pa.

SPORTING EVENTS IN CHESTER COUNTY

The American Legion, Downingtown, and the Chester County Rod and Gun Club, Inc., Coatesville, will hold five sporting events on the latter's grounds, Thorndale, this summer as follows:

Saturday, July 20 (afternoon) a registered clay target race of 75 targets and a fly, plug and surf casting tournament. Henry Bickel, Physical Director of the Y. M. C. A., will have charge of latter. Useful trophies will be awarded for both these events.

Sunday, August 20 (afternoon) a registered clay target match of 100 targets—Chester County Championship. George D. Baldwin,

President of the Pennsylvania State Trap Shooting Association, West Chester, Pa., now holds the crown. Besides the championship classic there will be a five man team race, ten counties participating, Chester, Lancaster, York, Philadelphia, Montgomery, Berks, Bucks, Lehigh, Schuylkill, Delaware, and Columbia. The team race will create much interest because each county will enter as many teams as it chooses, naming the participants before the shoot starts. Norman M. Wood, secretary of the Chester County Club, well known among sportsmen in this and adjacent states, has arranged the unique blue ribbon classic.

Sunday afternoon, August 27, the club will stage a Raccoon trial. "Bill", Rodgers, Uchlan, well known among 'coon' hunters, will have charge. Nat Garman, Reading, will be one of the officials. The trials will take place at Thorndale, 26 miles west of Philadelphia, on the Lincoln Highway. The trial will be open to all states and a big field of entries is anticipated.

The next big event will be Saturday afternoon, October 14 at Thorndale, when a 100 clay target match will take place. The affair will be registered and there will be \$50.00 added money for the marksmen. There will also be a rifle and revolver tournament on the same day.

In the Spring the club is looking forward to the construction of a lake on its land to be stocked with trout.

CHOKE IN A SHOTGUN

Choke is nothing more than having the diameter of the muzzle smaller than the diameter of the main portion of the bore. This differs tremendously in various makes of guns according to the manufacturers' ideas.

Since the 12 gauge is the most popular in this country, it is interesting to note a few figures on this subject. The average bore diameter of various makes of 12 gauge guns runs about .723 inch. The full choke gun in the various makes shows a reduction in size at the muzzle running from .023 to .034 inch, usually averaging around .030.

Choke is not a gradual taper in the bore from breech to muzzle. Checking the most

popular makes of guns on the market, we find that the choke begins from about 3½ to 1½ inches from the muzzle. In other words, on practically any of the modern shotguns if you should amputate four inches from the muzzle of your barrel you will remove all traces of choke and have a true cylinder bore. Results with this will be 100% unsuccessful as the true cylinder will blow holes in the pattern, frequently forming a doughnut pattern with the entire center completely free of shot pellets and permitting the escape of game with a perfectly aimed shot.

Therefore, do not attempt to cut down shotgun barrels. You will ruin the performance to cut down even one inch.

Twenty years ago long barrels were favored by shooters, particularly for "long range shooting." The average 12 gauge shotgun with the heaviest loads is good for about 50 to 60 yards; with standard loads it is not successful at ranges much over 40 to 50 yards. Those tiny pellets have to buck a lot of air, and it slows them down so that their power at a range greater than 50 yards is not sufficient to kill even birds satisfactorily.—*National Sportsman*.

During the past several months the Ambridge District Sportsmen's Association has been making some splendid contacts with the farmers in its vicinity. During May the Association held an outing and provided entertainment and luncheon for all farmers and sportsmen who cared to attend. Through its efforts the club has been able to get about 35 landowners (and it expects more) to remove their trespass notices next fall.



"The buck shown above was born in my back yard, June 29, 1937. The doe was 3½ years old when she was first bred and gave birth to twin fawns, this buck and a doe.

"In all probability this buck's ten points (with three buttons or points on the base of the antlers) can be attributed to the condition of the doe during her period of gestation. In the latter part of this period I fed her calcium hydroxide and continued until the fawns were 8 weeks old.

"When the fawns were 12 weeks old they developed rickets. At once I started to feed them on calcium hydroxide, Purtest Cod Liver Oil and syrup of Calcium Lacto Phosphate. Within 4 weeks the rickets had practically disappeared.

"The buck is the product of a well balanced diet, which consisted of an abundance of food of the highest quality obtainable, such as rolled table oats, horse feed, cracked corn, calf pellets, grass, apple limbs, and many other minor rations."—Geo. A. Meyers, Dallastown, Pa. Photo taken Sept. 5, 1938.

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THE MAIL BAG

IN THE May issue of GAME NEWS there appeared an article under the heading, FOX HUNTING, written by Mr. W. Newbold Ely and passed on to our Pennsylvania sportsmen in an effort to convert them to the idea that the fox is not destructive to our small game. It may be very true that the information which Mr. Ely has given us was the result of an honest investigation by the University of Minnesota's Farm Entomology staff, but it is also very true to anyone who knows much about the fox that the period of this investigation, November to May 1, was no time to investigate the stomach of a fox to find out what damage he does among our small game birds and animals during the year. It was, however, a good period for an investigation by those interested in clearing him of these very much justified complaints.

It is a well known fact that the fox has very much the same habits and other characteristics of the dog plus cunning, speed and the knowledge that he must hunt and kill his own living. We allow dogs to run during the season mentioned in this investigation because we realize they do very little damage to mature game. In the breeding season it is a different story; realizing that he can and will do tremendous damage to nesting birds and young game animals, he is kept on the leash or his owner is forced to pay a stiff penalty.

We all agree that the fox may do some good by feeding on mice. It is also true that he feeds on berries, grapes, etc., but most of this is his Fall and Winter diet; he makes almost a complete change of diet during Spring and Summer. We also know without any fear of contradiction that he surely does relish and smack his old chops on fresh eggs and choice cuts of young song birds, grouse, ring-necks, quail and cottontail rabbits and if we can bring ourselves around to the place where we can kid ourselves by believing that there is no danger of a sly fox catching and killing small game during breeding season, then why keep our intelligent bird dogs and noisy hounds on the leash during that period?

Trying to clear a fox of his year-round damage on small game birds and animals by analyzing his stomach during winter months and telling us only about the destructive mice he kills and his liking for berries and grapes without giving us his complete diet the whole year through reminds me of a mother who tried to defend her bad boy by saying he couldn't do anything bad because he never missed a Sunday from Sunday School. Naturally a fox may do some good because he is no different from any other living creature. Even Man really finds it about impossible to be so bad that he won't make a slip sometimes or other and do something which will be considered harmless or good, but I do feel sure that when we have his year-round diet we will realize that the fox doesn't belong in any small game cover.

We realize it is very difficult to analyze many fox stomachs during small game breeding months. He is not molested or killed in any large numbers during that period for several reasons. His fur is useless and there is a lack of desire on the part of most sportsmen to study him and investigate his destructiveness during breeding season. These facts help his reputation very much. I feel sure that the man who will take the time and make an effort to find out will find enough to convict Mr. Fox on the charges mentioned without turning his stomach inside out.

I have lived very close to the fox and have found great pleasure and first hand information by following him around and studying his habits. I feel I have been well paid for my efforts and I write this article to try to enlighten others. I have followed the fox for days at a time during the winter when I can read his signs on the snow, and they tell a whole lot. I have also studied his dens and habits during small game breeding season. His droppings also tell a year-round story. By the signs on the snow I found time after time where he has used all his speed and cunning in an attempt to capture mature grouse, ringnecks, and quail, but because of their many handicaps, such as size, good visibility due

to open brush conditions in winter, and the fact that his intended victims are always on the alert, and have good wings for a quick getaway, he is unsuccessful in most attempts with the possible exception of a few quail which he gets at times due to his desire to stay put a second too long.

He is no more successful with a big, healthy cottontail, who will make use of his strong legs, tricks and the first hole he comes to. The fox does get a few of those on deep snow, but very few. We have an entirely different picture and condition during breeding season when Mr. Fox preys on babies instead of mature birds and animals, and unborn young in the form of a nest of eggs. This is when the diet of Mr. Fox changes and he goes into high priced living at the expense of the small game hunter.

During the breeding season as a rule Mr. and Mrs. Fox have a family on their hands and they surely do make a special effort to keep them well nourished on fine cuts of young song birds, grouse, ringnecks, quail, cottontails, etc. Mr. and Mrs. Fox consider mice alone too cheap a diet on which to bring up their young. When Mr. Fox, with the aid of his keen nose, flushes a nesting bird off her nest, do you suppose he is foolish enough to chase after her? Why, of course not; but he does make an investigation of the spot she left, just as the average dog would do. Finding a nest of eggs he slicks up his own coat and body on this meal, because it is almost impossible to carry eggs to his den.

Next he flushes another bird with a brood which is as yet too young to follow the mother bird, the mother bird flutters off and the young hide among the leaves and brush, which is just like the ostrich sticking his head in the sand to Mr. Fox. With the aid of his keen nose and skill he will hunt up and capture the entire brood and carry them home to his young. When Mr. Fox comes to a field or clearing where quail, ringnecks, and song birds nest, and where cottontails leave their nests of defenseless unprotected young, he will search out every inch of the ground and lay in wait for young moving around, and through his cunning and speed kill them off in large numbers and carry them to his den also. Inspection of the ground he covers, his den and his droppings tell all this to this interested person who really wants facts.

Several years ago I knew of one section where small game was practically extinct, but foxes were very plentiful. A few sportsmen made up their minds to get rid of the foxes in any way possible. This was done until it was almost impossible to find a fox track, and believe it or not, in a year or two this same cover sheltered a tremendous supply of grouse and cottontails.

I want it to be distinctly understood that I get a great deal of pleasure in studying, trapping, trying to trap and hunt the fox as well as small game hunting, and because of this I don't want him exterminated; I only want him controlled. But as a small game hunter and one who at least knows something about the fox, I don't want anyone to kid me by trying to tell me that he is a beneficial instead of a destructive fellow among our small animal and bird life. Why kid ourselves in order to please a few? Mr. Ely's article may have its place in a fox hunter's or trapper's magazine, but it is as much out of place in the PENNSYLVANIA GAME NEWS, which is mainly supported by the small game hunters, as an article which appeared in it a few years ago telling us that the poor little weasel was a good bed fellow for small game.

If it were only possible for the Minnesota school to make a study of an equal number of fox stomachs during breeding months as they get in winter, I feel quite certain they would find this complete change of diet, and also the fact that he doesn't belong in small game cover.—ROY WOOTTEN, *First Vice President; Head Camp, United Sportsmen of Pennsylvania.*

FOX HUNTING NOTES

By WM. NEWBOLD ELY, JR., M. F. H.

THIS month that well known sportsman and naturalist, Richard Pough, wrote a most excellent editorial in *Hunting & Fishing*. We believe that references to it in these columns will be of interest to our readers inasmuch as Mr. Pough so scientifically confirms the ideas and aims of our own state's progressive Game Commission.

First emphasis is laid on the fact that "there are definite limits to the ability of any area to produce vegetation to support animals dependent on plants for food." Any increase over the top limit of population will if it continues cause starvation with over-grazing and killing of valuable food plants. Nature with her usual wisdom originally provided for a safeguard against this excess increase by the predators.

Even more important is the fact that the predators were put with us to actually select the game animals to perpetuate the species. They do this by killing off the weaklings and diseased because they are the easiest to catch, leaving the best specimens to carry on.

We try to stop disease by quarantine, but there are no quarantines in the woods, and, if it were not for the predators, diseases would spread like a forest fire. In addition the predators polish off the old and feeble ones which usually "serve as a focal point for the start

and spread of an epidemic. Furthermore, as most predators are scavengers, they remove the bodies of those animals that occasionally die of disease before they are killed, thus taking the place of our civilization's burial.

Still another helpful role of the predators is scattering the animals which tend to stay too long on one feeding ground and get it infested.

Now we come to the real competitors of the grazing animals. These little fellows are the rodents and insects which eat grass during their growing stage and the grass lasts until they lay their eggs in the late summer. After that they don't care what happens, but the grazing animals do, because they "are absolutely dependent on a year around supply of grass and would starve during the winter if the forage supply was exhausted" by their competitors increasing too rapidly—so here again the predators who used to be maligned back in the dark ages.

An example of this is shown by our Game Commission wisely taking off the bounty on wildcats which formerly kept down the diseased deer, and out west in several of the national parks they are removing the bounty on mountain lions to improve their herds. When they had such zealous drives in certain sections of the west on coyotes they almost

annihilated them. Then the prairie dogs increased so fast the land began to be ruined, so recently they actually bought and put out coyotes which a few years before they had been trying to kill off. And the most recent studies on the great horned owl have shown that bounties here were also a mistake as the owl did more good than harm. So it will probably be only a question of time until all bounties are removed, and our wildlife left with the balance which wise old Mother Nature intended, and the best game will be where the full quota of predators are present, as all sportsmen who have done much gunning know.

Some may argue that the sportsmen themselves take the place of predators because originally in nature there were no gunners. But the sportsmen put out game and restock, and the gunners do not just shoot the sick and the weak, in fact just the opposite because the specimens that are under the weather lie close and strong and healthy flush first, and get shot.

So when man complains of a headache it is usually because he has interfered with nature and when man complains of a lack of game, or mice ruining his fields, he should not blame the predators anymore than he should when he reaches for his aspirin bottle.

NATURE'S TRIAL BY JURY

By ADOLF MULLER

Former President Pennsylvania Game Commission

A FEW years ago I witnessed a strange drama of Nature. It happened in Mifflin County, Pennsylvania, just east of the Seven Mountains. In company with Frank Myers, district game supervisor, I went out to collect data on deer damage. We had along one movie camera and one still camera and succeeded in getting some good pictures of deer on the move, a very exciting, and interesting job. We went over an old, rough and little-used road till finally we came to an almost concealed stone wall that once upon a time framed in a mountain farm. It was already partly hidden and we were hunting a way to get to the other side of the wall when suddenly we stopped to listen to the most stupendous commotion and noise I have ever heard. It seemed as if out of the skies came the sounds of rushing waters mingled with thousands of voices.

We soon recognized a veritable cloud of crows settling down on the open space within. The noise died down and we quickly edged from one hiding place to another till we could see through the trees. There in a space of about three or four acres were at least ten thousand crows, and in the center they left a circular clearing about ten yards across. Within this area stood one lonely raven, and opposing him were four or five crows attacking the raven by talk—charges and countercharges and no doubt about it.

The raven, with one wing a wee bit raised, stepped lightly from one side to the other and talked back. The crows with wings tight against their shiny bodies, necks outstretched, cawed at the raven in a language that could, with the least bit of imagination, be translated into words. Frank's translation was that the raven was charged with being an outlaw and that this was the crows' country and no place for any raven. The verdict would be death, and every crow within sight and hearing was there with one desire to see him killed, but not without a trial.

All through the performance the raven was dignified and alert. The crows, I would say, only a little less so, but more aggressive. However, they did not attack him or do him any bodily harm. They

were most active while facing him, with plenty of unceasing talk; while the great audience of thousands of crows looked on almost as quietly and orderly as if the audience were composed of men, all of them facing the little court in the center.

I had heard of such a thing being observed, but now that I actually saw the real thing I must have got not buck fever but crow fever, because in the excitement I forgot to use caution. Instead I thought I must have this picture, and boldly stepped out where all could see me—and you know how gladly any crow will let you come close to him at any time. They all rose as if in drill formation just like a vast black veil, raven and crows all rose high above the trees and sailed away—and I lost the chance of a lifetime to get a really great picture.

For a long time, perhaps always, I shall remember this unexpected scene, the trial of a raven by crows who seemed to have been performing a well-planned act.

But who knows whether crows think? From their behavior during this incident I am convinced they possess a degree of reasoning whether it be just or unjust, brutal or not. They are not stupid; they have through the ages held their own; and in spite of the fact that they receive no protection from the game laws of any state they are on the increase. Men organize crow-shooting parties that go out at night where they roost, and kill as many as one to three thousand in a single night.

The war on crows goes on all over the country, and yet the crow exhibits a power to live that is a marvel of Nature. He is one of her children, an unruly and bad one, but no power of man has yet reduced his numbers.

Wise old crow! He steals a little, he caws a little, he annoys a little, but he's always splendidly dressed and always alert. He trusts no one, but he stays, knowing the limitations of man. He easily picks up his living among his enemies everywhere.—*Courtesy Country Gentleman.*

STEPPING UP GAME PRODUCTION IN PENNSYLVANIA

(Continued from Page 5)



Another view of wild turkey propagating area.

wherein no hunting whatever is permitted. No attempt is made to locate these units in breeding places, but rather in sections where seed stock will be preserved during the hunting season. The refuge areas are small in size, about 2 to 25 acres each, surrounded by a single strand of No. 9 galvanized wire such as is customarily used around all Game Refuges in the State. Metal Auxiliary State Game Refuge signs are posted around the refuge subdivisions warning hunters that they are approaching an area within which hunting is unlawful.

Safety Zones, not to exceed 150 yards from occupied buildings, are set up by authority of law, wherein no shooting is permitted. It is unlawful in Pennsylvania to shoot a firearm within 150 yards of an occupied dwelling or outbuildings used in connection therewith, without the specific permission of the owner or tenant thereof. On the Cooperative Farm-Game Projects this safety area is conspicuously posted by the Game Commission, with safety zone posters warning hunters. State Game Protectors also patrol the areas and arrest for violations. This phase of the program particularly appeals to the farmer.

It has been found that the majority of farmers in Pennsylvania do not expect to be paid for the privilege of hunting, but they are vitally interested in protecting their property. In setting up the Cooperative Farm-Game Program, no provision was made for the payment of a rental for the use of land. The lessor may be paid an equitable price for the raising of game, or for trapping surplus birds or animals, and he will be paid for leaving designated strips of grain for game food adjacent to Refuge units. In addition to this, Game Protectors are on duty at all times during the hunting season, not only to enforce the Game Law but also to see that careless hunters do not shoot in the direction of men working in fields, nor within the Safety Zones around buildings, and that they do not destroy fences, tear down wood or stone piles, or injure poultry or livestock.

At the opening of the hunting season on November 1, 1936, only one project had been established, although several others were almost ready for establishment. Encouraged by the success attained with this one area, additional projects were set up so that when the hunting season of 1937 opened 36 projects had been established comprising more than 37,000 acres in 14 counties.

An inspection survey was made of the established projects by members of the staff of the Game Commission during the small game season in 1937 to determine the reaction of farmers and sportsmen to the program, and to determine how the plan functioned under hunting pressure. The findings were extremely gratifying. After the close of the hunting season questionnaire blanks were distributed—one for participating farmers to fill out, the other for sportsmen who had hunted on the project areas. The purpose of the questionnaire was to check the findings of the inspection survey.

Responses from the farmers and sportsmen definitely indicated that by far the largest proportion of farmers and practically all sportsmen consider the plan the best and simplest yet devised for farm game management. Nearly all farmers expressed complete satisfaction with

the way hunters conducted themselves and many made special comments commending the patrolling officers. A majority of farmers also indicated their willingness to cooperate with the Commission and sportsmen in efforts to provide better food and cover for game on their farms.

By the time the hunting season of 1938 had opened, 59 projects had been established, containing nearly 74,000 acres, more than 18,000 acres of which were included in Refuges and Safety Zones. (The number of such projects has been growing constantly since. See article by W. Gard Conklin, in the April issue of PENNA. GAME NEWS.¹) An adequate force of deputies was hired with definite instructions as to their duties and conduct. Everything possible was done to protect the cooperator, his family, his stock, and his property. Deputy Game Protectors were instructed to make every effort to develop friendly relations between the hunters and farmers.

The Game Commission has as yet carried on very little development work on these projects aside from the arrangements for food plots which are usually strips of grain purchased from the cooperating farmers. Because of the newness of the program it is felt that we should first induce the farmer to carry on his farming operations in such a way as to encourage wildlife before any great expenditure is made in the planting of game and cover producing trees and shrubs.

Every attempt is made to interest the cooperating farmers in utilizing waste places, such as eroded gullies, fence corners, creek bottoms, woodlots, etc., for the benefit of wild life in order that it will have sufficient natural food and cover. Every opportunity is used to point out to them that wildlife management is not a practice that must necessarily be conducted independently on the farm, but that it can be made a part of the many other farm and soil erosion control operations.

We continually point out to them that the best wildlife management on the farm quite often is not the things done at special expense for that purpose *but of carrying on the usual farm operations in a way to protect and encourage wildlife rather than to destroy it.*

Sportsmen have given splendid assistance in this connection and during the past year many clubs have also arranged for the planting of food plots in various parts of the State in cooperation with the farmer.

Through Education—Our Division of Education has done considerable work in promoting a better and more pleasant farmer-sportsman relationship through repeated suggestions contained in our magazine (PENNSYLVANIA GAME NEWS) also through their lecturers while in attendance at meetings of granges and of sportsmen's organizations, in news releases, and in many other ways have brought home to sportsmen the necessity of maintaining close cooperation with the farmer. Most sportsmen in the State now realize that the landowner holds the key to his future hunting. The landowner not only can prohibit the sportsman from using his property for hunting, but he also, by his activities on the land, can make them a better or worse place for wildlife.

A great deal of good in an educational way has been accomplished by our field managers and game technicians in contacting sportsmen and landowners.

Representative sportsmen are taken over treated game land areas, the work explained, and the results which are, and can be accomplished by environmental improvements. Sportsmen and landowners are given advice in their efforts to improve conditions on areas in which they are especially interested.

That the sportsmen have come to realize the seriousness of the situation is indicated by the fact that the State Federation of Sportsmen's Clubs at their meeting in Harrisburg, in February, 1938, passed a resolution requesting the State Game Commission to furnish the clubs with a bulletin which would contain practical suggestions for improving wildlife habitats on farming areas, and which might also be used by sportsmen's organizations who wished to carry on certain kinds of work in the interests of wildlife. This bulletin was prepared and 20,000 copies printed. Sportsmen's organizations immediately requested them to pass out to their farmer friends during the county fairs and in their other contacts with the farmers. In fact the response was so good that it was necessary to get an additional 30,000 copies printed within a short time. In some cases farmer-sportsmen associations have been formed for the purpose of promoting friendships

¹ As of June 1 there were 65 Farm-Game projects containing 94,444.7 acres with 1,252 Farm-Cooperators.

STEPPING UP GAME PRODUCTION IN PENNSYLVANIA

between the hunter and landowner. Some of the clubs have already made arrangements with farmers in their communities to carry on certain suggestions as outlined in the Bulletin. It is believed that through the farmers and sportsmen we will be able to materially build up the wildlife environment in the agricultural areas throughout the State.

Propagation and Restocking

Ringneck Pheasant Propagation—Even with the extensive improvements in environment, it is necessary in Pennsylvania to carry on an active program of artificial restocking and it will probably be essential to continue this program for many years to come because of our great army of hunters. The Commission has operated four Game Farms for a number of years, three devoted principally to the raising of ringneck pheasants, at one of which quail are raised. The fourth farm is used for raising wild turkeys. In order to create a greater interest among sportsmen and in order to supplement the production at the farms a program has been worked out during the past year whereby sportsmen's organizations will be furnished with six-week old ringneck pheasant poults, provided they agree under certain regulations to raise these to an age suitable for liberation and in a pen as specified by the Commission.

Prior to 1935 a great number of six-week old pheasants were released in the field with the result that large numbers were lost. This policy was discontinued and a program of spring restocking adopted. Approximately 25,000 birds are now released in late summer at the age of 12-18 weeks and the remainder held at the farms for spring restocking.

Rabbit Propagation—It has been shown that liberation of rabbits in Pennsylvania with stock imported from the Middlewest has not proven successful, probably because at the time of release the animals were in poor condition and the environment encountered was not conducive to their welfare. The Commission, therefore, about a year ago decided to set up rabbit propagation areas designed eventually to supply from our native stock the majority of the rabbits annually required for restocking purposes.

It is planned within the next few years to have in operation a number of these special units in each of the 67 counties of the Commonwealth. The areas are placed on suitable lands whereon the Game Commission can by agreement, or lease, obtain the hunting and trapping rights. Many of them are established on our own State Game Lands or Game Refuges. The units vary in size according to the area available. They are surrounded by a single strand of No. 9 galvanized wire of the same type as used to mark the boundary of Game Refuges. There is no hunting permitted on the areas at any time and they are subject to such additional rules and regulations as the Game Commission may see fit to adopt.

Wild Turkey Propagation—Considerable improvements have likewise been made in the restocking of wild turkeys. As was previously mentioned, a Game Farm is maintained solely for the production of wild turkeys. While the farm has proven successful insofar as production is concerned, yet the kind of stock produced was not as desirable as the Commission required nor were the birds wild enough to shift for themselves when released.

About two years ago the Commission, therefore, decided to experi-



Construction of rail fences to break up large open areas. Fences are planted to trees, shrubs and vines to provide food and cover.

ment with propagating areas established in the wild. Eight of these units comprising about 10 acres each were set up inside various large State Game Refuges in the best wild turkey range and surrounded by six-foot fence. Twenty-five wing-clipped hens from the farms were placed in each of the areas during March in order that native wild gobblers could mate with them. Most of the eggs produced in the areas during the summer were taken to the Game Farm to improve the strain of stock at the farm, and the remaining eggs were hatched by the hens on the areas.

Surprisingly satisfactory results were obtained during the first year. One of the main difficulties which is encountered now is the fact that the birds are becoming too wild to handle, both in the areas and on the farm. It is believed, however, that this problem can be successfully solved at the farm by special handling of the birds which are to be placed in the areas the following year.

Conclusion

The need of more drastic efforts on the part of game administrators in providing a greater supply of wildlife is imperative if the demands of the ever-increasing army of hunters is to be met.

The trend of recent activities in promoting increased game production in the Keystone State can be summed up in a program of preparing suitable places for wildlife by improvement of the environment; making arrangements for distribution of a good stock of birds and animals to these improved habitats; and encouraging farmers and sportsmen to work together to the end that the farmer gets protection and the sportsmen a place to hunt.

We do not profess to know the answers to all questions. Many problems remain unsolved. We must, however, keep in mind that no state can hope to carry on all land management work. The cost would be prohibitive. It is therefore, vitally necessary to encourage others to carry most of the burden with the way shown by the State organizations.

Among the important accomplishments of the Michigan Legislature was the passage of a general fish bill that increased the resident license fee to \$1.00 with 40% earmarked for land purchase, stream improvement and research.

Michigan archers who go after deer with bow and arrow were given an excellent break by the Legislature. Deer hunting with bow will be legal this fall from November 1 to 14 in all counties open to regular deer hunting. Heretofore the special archery season was limited to two counties.

Bears were taken off the protected game list in Michigan after the Legislature voted to pay from the Game Fund \$5000 in pending bear damage claims and repealed the bear Rhode Island.

hunting laws. Bear hunting will be legal all year round, but the Michigan Conservation Commission has authority to protect both bears and skunks in any county. Opossums also were taken off the protected list.

The Rhode Island Fish and Game Department in cooperation with the Rhode Island State College, plan to develop the Burlingame Reservation as a *demonstration and research area*. The area will be used to test methods of rehabilitation under practical conditions, and by observation and careful study, to determine the efficiency of game management techniques as they apply to conditions in

The Illinois Department of Conservation estimates that the returns to the people of Illinois from fur amount to between \$1,000,000 and \$2,000,000 annually. To properly administer this valuable resource the Department feels that it is in need of dependable information not now available, and to accomplish this objective it has proposed a study to be made by its Natural History Survey Division, with the assistance of Federal Aid funds.

An albino buffalo, the third known to be living in North America today, was recently sighted south of Fairbanks, Alaska, by Wildlife Agent Grenold Collins, of the Alaska Game Commission, and Dick Hawley, pilot of the plane in which Collins was making a survey flight in the Big Delta River area.

YOUR DOG --- It's Care --- Health --- Training

(Continued from Page 16)

tergreen added is good medicine for any dog. Sore pads will react favorably to a combination rub of alcohol, alum and borax; followed by an application of resinol salve. Too many hunters think their dogs will round into form if left to themselves and allowed to lick their wounds. This is d— poor sportsmanship in any man! . . . and many a good dog has been lost by this illogical reasoning. Treat your dog as the pal and companion he is and he will stand any amount of hard work gladly and willingly.

In closing, it might be well to mention the retrievers used by the duck hunters. These dogs should be accustomed to the hardships of swimming in cold water for several weeks before the flights come down from the north. Although by nature they feel no discomfort when wet, still they should be hardened up by working them among weeds, reeds and shore growth and given a bit of preliminary training or post-graduate work each fall before the actual work of bringing in the dead birds and cripples commences. Most of these retrievers are kept by their owners where they cannot disport themselves in water every day, or if so, there is a vast difference between the comfortable warmth of water in a small pool, or shallow stream, and the cold temperature of larger bodies of waters of the rivers and marshes, where ducks forgather on their migratory flights. Only when your dog is properly conditioned to undergo the hardships of the hunt, can you expect it to give you top or even creditable performance. So, give your dog a reasonable break; that's all he asks!

Question: I have a 11" beagle which I would like to get some dope on breeding. This hound is a year and a half old and is due in season in October. I got her after rabbit season had closed last fall, but the times I have had her out she has never shown any signs of ever amounting to much. She has jumped sitting rabbits and stood still and watched them run away, making no effort to trail them. I have also tried her on drags, to no avail. Her parents are of good beagle blood. Am

"On June 10, enroute to Game Lands No. 52 from Marietta, a distance of 35 miles, I observed the following birds and animals killed on routes Nos. 23 and 30: 3 rabbits; 3 pheasants, (hens); 3 cats; 1 flicker and 6 small birds, (species beyond recognition)."—Game Protector Peter J. Filkosky, Lancaster County.

A deer was killed in Centre County recently when it jumped in the path of an automobile operated by Russell Burd, of Overlook. The animal's head was rammed clear through the windshield of the car.

Three deer were killed in Schuylkill County recently. One broke its neck trying to leap a fence; Game Protector Leo Bushman was compelled to shoot another in a garage on the main street of town; and another was struck by an automobile.



Photo by M. J. Myers

Tuscarora Pat owned by Alex Sweigart, well known Editor of the "Angler" and all round sportsman. Pat's on a quail.

wondering if blood is any part of the battle. What I am getting at is will this beagle hunt and will she produce puppies that are worth while or will they be just beagles by name. Also how about breeding a gun shy bitch, in regards to the pups.

J. B. R., Willow Grove, Pa.

Answer: In my opinion, there are only two ways to solve this problem of yours. Without seeing your dog I would say that you have a well-bred dog of the dual type and not a straight field bred type. First, I suggest that you keep on taking her out, often. Secondly, get in touch with some one who has a good working beagle and let your bitch work with

this good dog until she learns to go out and hunt independently. The first method requires a great deal of patience sometimes but usually produces results in the long run. I think you will find that "blood does tell." So far as her "producing" beagles that are worth while, it is possible that she might even produce champions in surprising number for you. A gunshy dog will not necessarily produce gunshy pups. I do not think that gun shyness is hereditary, but is caused by the owners themselves.

D. E. F.

NOTE: Sorry we haven't room to answer more of the queries here this month but I have answered all of you by letter the same day your query reached me.
"DAVE."

A lively buck deer paid an unhearded visit to the Gillis and Sober garage, at Tenth and Market streets, Sunbury, Pa., shortly after noon leaped, over cars in the showroom, and display windows and created much excitement in that section of the city, before being trapped in the wash rack by garagemen and passersby. Later a moving van was backed up to the door, the deer jumped in and was whisked away by Game Protector Bruce Yeager and released on Montour Ridge.

Bird casualties on the highways are attributed mainly to cars travelling over 35 or 40 miles an hour, and one observer thinks the draft from the fan may partly hinder the birds from escaping high-speed traffic.—*Science News Letter*.

European royalties of the Middle Ages considered falcons from Greenland especially fine for hunting.—*Science News Letter*.

Rhode Island became the 30th state in the country to receive aid from the U. S. Department of Agriculture under the Federal Aid to Wildlife Restoration Act, the U. S. Biological Survey has announced.

Nine buyers of wild ducks were fined June 16 by Judge John P. Nields in Federal court at Wilmington, Del., the U. S. Biological Survey reports.

"We are going to continue to prosecute both buyers and sellers," says W. E. Crouch, chief of the U. S. Game Management Agents, "and whether the violators are important or unimportant citizens has no bearing on the case. We agree with Judge Coleman who in Federal court recently said: 'That some of you are substantial citizens of the community is no reason to expect special consideration—it is all the more reprehensible that you violate the law.'"

A big tree may have half a million leaves.—*Science News Letter*.

I MADE an extensive study of grouse during the past few weeks in regards to their hatching, and wish to tell you a few things that I have learned. The weather for hatching and breeding this spring was ideal, but as you will note in my remarks the grouse has many natural enemies such as snakes, weasels, foxes, hawks, owls, etc. In the nesting season in the locality in which I worked the blacksnake was by far the worst of them all.

I made a check on the number of eggs laid in each nest, also the hatch but will not go into detail with each nest. Seven nests held eleven eggs each; all hatched. One nest had eleven eggs; ten hatched, and one had a chick in it. One nest held twelve eggs; ten hatched and each of the other two eggs had baby grouse in them. I think the reason the chicks did not hatch in these three eggs was because they were discovered by WPA workers, who not only molested them, but told their friends who came to take pictures of them.

Two nests with fourteen eggs each; all hatched. One nest with sixteen eggs all hatched. Out of this total of one hundred forty-four grouse eggs, one hundred forty hatched, leaving only four eggs that did not come out. Three of the four held chicks and one was spoiled. The three that had birds in them were just ready to break through the shell. All hatched the latter part of May.

In June, I located one nest with thirteen eggs, one with eight, one with seven, and one with fifteen. The nest with fifteen eggs was located and checked on by Charles L. Micheals, a WPA foreman. All of the eggs were destroyed by vermin of some type. At another nest with six eggs a large blacksnake was killed. By the messed up condition of the eggs remaining in the nest, indications were that the snake had swallowed part of the eggs. The six left in the nest all hatched the next day, June 7, and the proud mother grouse walked away with six baby grouse.

On May 27 a grouse was seen to be very much disturbed, and upon investigation a four and one-half foot blacksnake was observed swallowing the eggs. There were only three left in the nest, and while killing the snake he spit one egg out of his mouth. This egg was cracked. At two of the other grouse nests I shot large blacksnakes. On Sunday May 28, one grouse nest with eleven eggs hatched. The next two mentioned nests I took pictures of and checked on the hatching. May 30, 1939 at

OBSERVATIONS OF GROUSE NESTS

By W. B. McCLARIN

1:10 P. M. I took pictures; two eggs picked. I also took note at this time of the grouse leaving the nest, and, as on previous occasions, she flew away from the nest very low to the ground, made very little noise, and did not go very far. At 3:07 P. M. the same day I again took pictures; one baby grouse hatched. Upon leaving the nest this time the mother grouse went fluttering along the ground, crying out as though crippled.

At 4:05 P. M. the same day, I again took pictures; three chicks hatched. Again the mother grouse left the nest in a direction that would lead one away from the nest, fluttering and crying as she left. I watched until evening to see that the nest was not further molested. On May 31, 1939, at 4:00 A. M. I was in the woods watching this same nest of twelve eggs until light enough to take pictures. At 5:00 A. M. it was light enough, and the mother ran fluttering and limping but did not make any outcry as of the evening before. I ran quickly up to the nest took several snapshots which did not turn out very good. There were ten very lively chicks in the nest and in less time than it takes to tell they were out of the nest and hid.

These grouse could hide under a leaf that you wouldn't notice. I walked away at once so I would not step on any that might be hid under leaves, and in a very short time the mother grouse returned, sat on the nest, called her little brood together and strutted off through the woods with her happy family. Both eggs that did not hatch had chicks in them

June 9 at 11:00 A. M. upon making an investigation of a grouse nest with eight eggs, I found two of the eggs picked. I at once called the Harrisburg office and they sent a movie cameraman in, Mr. Frank Stevens, an acquaintance of Leo Luttringer on the "last raft". Mr. Stevens and Mr. Allen Smeel, both of Clearfield, joined me at 4:15 P. M., but no chicks were out yet. At 6:00 P. M., the same day no birds hatched although the cameramen were taking pictures regularly.

At 5:30 A. M. on June 10 we again went to the nest; still no chicks had hatched. The camera was camouflaged with branches and leaves, then Mr. Stevens would walk in and start it going. The mother grouse was very wild at this time, and we had a very hard time to get shots of her on the nest. At 8:30 A. M. we again approached the nest; some eggs were picked but none hatched. At 11:30 A. M. all of the eggs were picked. At 2:00 P. M. the same story. At 4:05 P. M. the chicks were just breaking through the shells; then Mr. Stevens with his 16 mm. camera and Mr. Smeel with his 8mm. camera, recorded a scene which probably never has been and probably never will be duplicated again.

While the cameramen were taking the pictures the chicks were breaking the shells away. There were times when pieces of shell were knocked one-half inch from the egg when picked. While the pictures were being taken six of the chicks actually broke through the shells and came out looking wild-eyed at a new world. One, when it emerged, seemed to be looking right up at Mr. Stevens, and I made the remark to

Stevens at the time, "I'll bet he thinks you are a heck of a looking mother." The birds when first hatched are wild, but are not able to leave the nest for some little time. They tumbled around, fell over backwards, and later on stretched their little wings, evidently trying to gain strength. It was an hour before any of them were able to scramble out of the nest and try to hide. I made many other interesting notes about grouse in the past few weeks. In conclusion I will state that Mr. Stevens was a mighty fine man to work with, and had plenty of patience, which is required on a job like this

Another snake story—a tragedy which took place a few years ago. The attention of some men was attracted by the fluttering of a grouse. Upon investigation it was found that a six-foot blacksnake was wrapped tightly around the bird. The snake was shot, but too late to save the grouse; she fluttered a few times and was dead. And right by this scene was a grouse nest with eleven eggs. I had no idea that a blacksnake would attack a full grown grouse, other than to get at the eggs she was defending. I have pictures of the last mentioned snake and grouse. In opening up blacksnakes at different times I have found three small rabbits in one, five in another, and three small grouse in still another which again bears out my statement that the blacksnake is the worst enemy that the young grouse have

While crossing the mountain between Port Matilda and Philipsburg early Monday morning, June 12, a mother grouse was taking her family of seven across the road when the car just ahead of me ran through the little family killing one of the babies. The mother made a frantic effort to get the little fellow to follow her off the road while the six live ones waited alongside. She kept continually running to the dead chick and to the side of the road again. It really was pitiful to see how hard an effort she made to get the little fellow off the highway and to follow her and the rest of the family. As I got out of my car and walked toward her she still kept running to the chick and to the side of the road trying to get it to follow her. When I got close to her she went down into the brush still calling, and I took the dead bird away so she would not lead her flock onto the highway again



Before



After

HISTORY AND SIGNIFICANCE OF AMERICAN WILDLIFE

(Continued from Page 7)

conducted by the Biological Survey. This program seeks the establishment of a system of refuges totaling about 7,500,000 acres of birds and animals and providing a surplus not now existent but one land and water to furnish habitat for increasing the population of that will offset the losses from regulated shooting and other causes.

Exploitation Era Closing

The era of wildlife exploitation is now drawing to a close. Its last stages are marked by the increasing determination manifested by State and Federal agencies, by sportsmen and conservationists, and by the general public to apply methods and administrative policies of a positive nature for preventing further unnecessary losses of wildlife and for restoring the valuable species to the maximum abundance consistent with the conditions of a modern civilization. For many native American species the change of attitude has come too late to save them from extinction. The vanished species include the great auk, the Pallas cormorant, the Labrador duck, the passenger pigeon, the heath hen, the Eskimo curlew, and the Carolina parakeet. Of the mammals, the giant mink has gone and the grizzly bear has been nearly exterminated in the United States proper. Other species—the trumpeter swan, canvasback duck, redhead, upland plover, whooping crane, golden plover, and ivory-billed woodpecker, to list a few of those threatened—may yet be added to that much lamented category of treasures forever lost to us.

Even though some of these birds and mammals still number thousands and are common enough to suggest the idea of abundance, it is possible that these long years of abuse have already inflicted fatal damage through the reduction of breeding stock to a point where the annual increase by reproduction is less than the numbers annually destroyed by natural enemies and other causes. These inimical agencies include not only the predatory creatures but climatic conditions, starvation, drought, and disease. These influences can seldom be defeated or nullified effectively by human interference, so that a species still apparently numerous may actually be doomed to extermination and be already beyond the hope of rescue by aid of human devices.

Wildlife Management the Remedy

But the situation is not so discouraging as these comparisons would seem to indicate on first analysis. The fact that after 300 years of continuous exploitation, neglect, and abuse there still remain considerable populations of nearly all common species demonstrates the amazing tenacity of the resource and suggests its profound recuperative power under more favorable conditions. W. L. McAtee, of the Biological Survey, gives a vivid description of the ability of most species to multiply when freed from destructive influences. He states, "The most important factor bearing upon wildlife management is the amazing reproductive capacity of living things . . . to aid efforts to increase wildlife there is available a reproductive force almost explosive in its intensity."

Many attempts have been made to utilize this force in order that favored species—especially those classed as game—might increase. The Massachusetts colonies adopted ordinances to restrict the kill of certain species. Even the Indians maintained "bear preserves" whereon the bear, particularly valuable to them because of its fat, was never molested. Following settlement by the whites this type of effort to increase game by restricting the kill appears with increasing frequency, until at the opening of the present century nearly if not all the States and the Canadian Provinces had adopted elaborate statutory codes designed to protect wildlife and enable it to multiply. The system, however, is only partially effective. Failure to realize to the full the intended benefits has been due to lax enforcement of

laws, which has been occasioned in turn by negligible appropriations of money, by political interference, and by a general apathy on the part of the public, all of which are attributable to lack of appreciation of the seriousness of the problem confronting State and Nation.

But a deterrent factor even more potent was the seeming inability of wildlife administrators to realize that the reduction of the annual toll of game taken by gunners was only one part of a successful restoration plan. The missing element was that of planning for land utilization and management in such way as to preserve to the greatest degree possible the environmental conditions without which the wild creatures could not exist even though otherwise freed from human persecution. It is easy for us now to realize, for example, that the drainage and reclamation of about 100,000,000 acres of marshland in the United States alone operated as effectively to prevent the increase of waterfowl as did the guns of the market shooters. Similar conditions applied with equal force to other species. Cultivation, deforestation, lowering of water levels by drainage, and the pollution of many of the remaining natural reservoirs and streams placed upland game and other forms of wildlife under a tremendous handicap. Agriculture claimed not the fertile lands only—it invaded the submarginal areas as well—and the domain of the wild living things that required wilderness environment shrank away from the invader.

A Land-Use Problem

E. W. Nelson, a former Chief of the Biological Survey, was one of the first to point to the truth, when in 1915 he began to urge the immediate acquisition of marsh and water areas to be set aside as permanent sanctuaries for waterfowl and other forms of wildlife. It was not until 1928, however, that there was finally passed the Migratory Bird Conservation Act, which authorized appropriations of funds amounting to about \$8,000,000 to be expended over a 10-year period for the purpose advanced by Dr. Nelson. Only about \$1,300,000 has actually been appropriated thus far, but by the passage of the act, Congress gave its endorsement to a national policy of wildlife restoration and declared the preservation of habitat to be a fundamental part of the Government's restoration plan. This act has since been supplemented by others and by the allocation of emergency funds designed to carry out these purposes.

Not only Congress but other legislative and administrative bodies and the people generally at last began to appreciate the value of preserving and restoring wildlife and to understand its intimate relationship to land utilization. The long cycle of drought beginning in 1915 and continuing with an intensity almost unbroken for two decades was responsible for a new and mounting interest by the public in the condition of organic national resources of all kinds. Words and phrases descriptive of soil erosion, lowered water tables, and the destruction of vegetative cover had been meaningless terms and vague to the mind of the average citizen. Suddenly they became clothed with disturbing significances when the somber, baleful shadows of the dust storms drifted across the country, telling of the destruction of millions of tons of fertile soil, or when floods roared unchecked along the inland waterways like huge ruptured arteries spilling out the very life blood of the Nation. The conservationist now finds an interested and anxious audience where hitherto his warnings had been ignored or heard with tolerance and politely concealed contempt. The great hand of Nature was writing a message of foreboding; the symbols were whirling clouds of choking dust, thunderous torrents, dying cattle, and destitute humanity. The message means that the economic and social security of the Nation is utterly dependent upon the national ability to conserve and administer wisely the organic resources and products of the soil.

Wildlife is one of these.

Bounding into the A. E. Ewing Company store, Union Street, Olean, N. Y., a young doe selected the sporting goods department with its large display of firearms, in which to frolic. The animal was half way up the rear stairs to the second floor when it was caught.

Chilly weather failed to cool the exuberance with which hundreds of sportsmen tackled programs of entertainment and skill at the picnics of the Harrisburg Hunter's and Angler's Association and the Keystone Sportsmen's Association on Sunday, June 18. Both capital city organizations are extremely active in all phases of wildlife conservation. The Hunter's and

Angler's group recently purchased 125 copies of the new wildlife bulletin for distribution among the schools and Boy Scouts next fall. The Keystone Club on the other hand has been bending its efforts toward farmer cooperation and invited over 20 landowners and their families to join in its annual outdoor get-together.

RINGNECK PHEASANT CRIPPLING LOSSES

(Continued from Page 3)

Several factors contributed to this appalling first-day total. Nearly three times as many hunters were in the field on the opening day as on any succeeding day, and 58.5 per cent of the total season's bag of pheasants was taken during this first day of hunting. Many of the firstday gunners were people who hunt only one day out of the year. Such hunters are seldom good shots and lack the experience necessary to judge properly the distance at which a bird can be cleanly killed. This lack of experience is responsible for many long shots which often result in crippled birds that either die a lingering death in the field or are mercifully taken by some predator.

Even the more experienced hunters lose a higher percentage of birds on the opening day than they do later in the season. They are usually out of practice due to the long interval since the previous hunting season. Shooting on the opening morning is very exciting, due to the high population of game moving about, as well as to the concentration of hunters. This excitement tends to upset the nerves and cause crippled birds instead of clean kills. Also, when shots are constantly available, there is a strong temptation not to waste much time in looking for dead or wounded birds which prove to be difficult to find.

Every sportsman is interested in reducing crippling losses because such an accomplishment would mean not only more birds in his daily bag but more birds to hunt in the future. For this reason, a few suggestions as to how these losses may be reduced are included with this article.

Shooting at out-of-range birds probably causes more cripples than any other single factor. Long-range shooting is encouraged by the natural human desire to shoot at something, and by the belief of the general public that successfully completed long shots prove a shooter's skill. Shotguns will seldom kill cleanly at distances greater than 40 or 50 yards, and *successful long shots usually represent luck rather than*

skill. Most conscientious sportsmen will agree that shooting at out-of-range birds in the hope of a lucky kill is poor economics. Each bird lost represents a portion of the funds provided for the production of game, since money was spent to provide food, cover, and protection for the bird.

Undoubtedly, much shooting at out-of-range birds is unintentional. Many sportsmen do not know how large a pheasant appears when viewed at a distance of 50 yards. It is suggested that anyone in doubt in this matter pace off 50 yards and look at a target the size of a pheasant from that distance.

The size of the shot used also has an effect upon crippling losses. If a very large size shot is used, too few pellets are present in the pattern to assure a clean kill. On the other hand, very fine shot do not possess the shocking power to bring down as tough a bird as the ringneck pheasant. The majority of the veteran hunters interviewed preferred No. 5, 6, or 7 shot for shooting pheasants.

Another contributing factor to the high crippling loss is the practice of hunting without dogs in dense thickets and similar places where birds are almost impossible to find if brought down. Probably more sport would be provided in the long run if such areas were not hunted where the crippling loss is likely to be high.

As mentioned earlier in this article, good retrieving dogs cut the crippling losses almost in half. For this reason, the use of dogs as retrievers is recommended as a further means of cutting down crippling losses. Fewer cripples will mean more birds next year.

Literature Cited

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Refuge Keeper Harold E. Russell, Perry County, reported that he killed a watersnake, in a stream near his headquarters. The snake had swallowed a brook trout about 12 inches long.

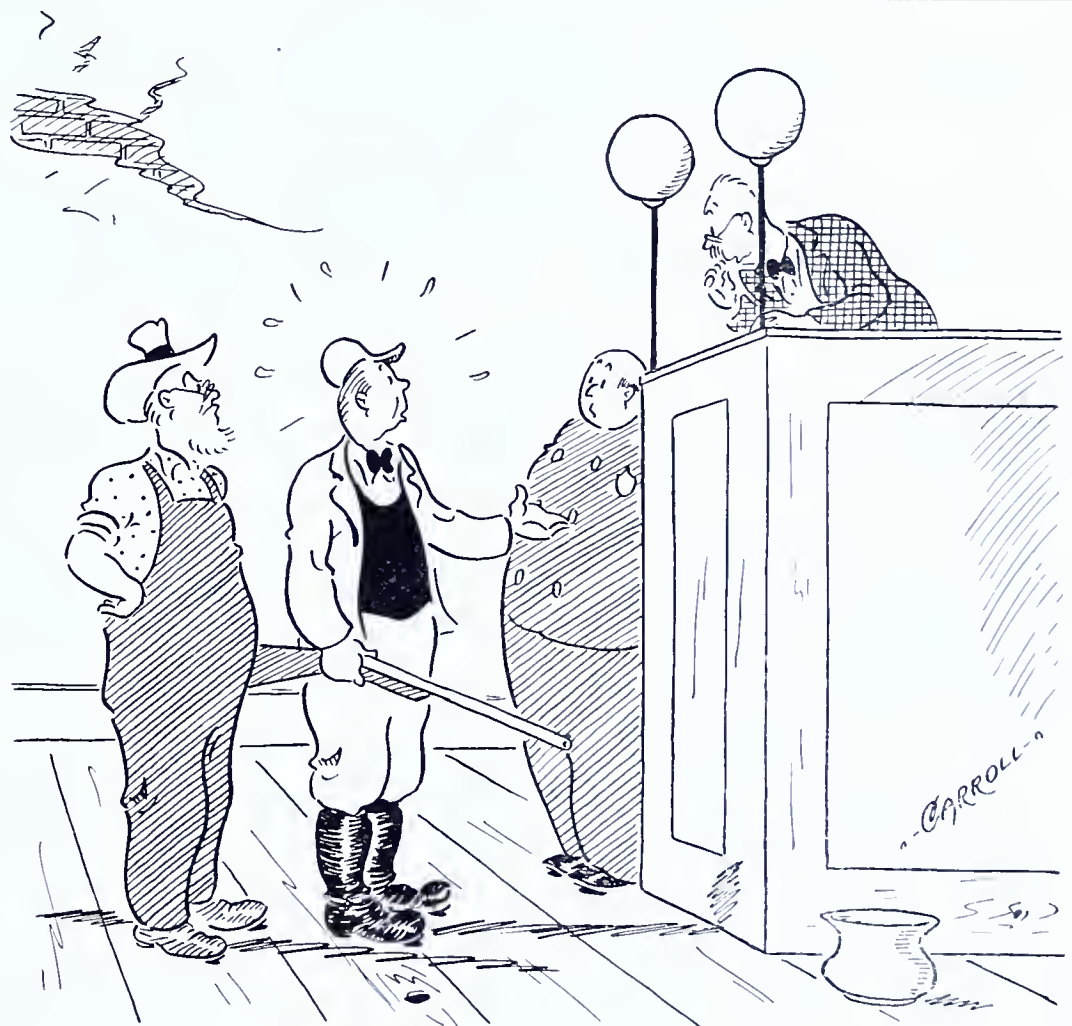
Refuge Keeper Joseph W. Kistner, Centre County, reported that on June 22 he killed a rattlesnake along a refuge line. The reptile had swallowed a weasel.

Refuge Keeper Howard F. Hoffman, Susquehanna and Wayne Counties, reports as follows: "Within the last week have observed six (6) different coveys of young ruffed grouse, the coveys numbering from ten to fifteen, all of about the size of a robin, fully feathered out and well able to fly. Rabbits are also very plentiful again this season, all sizes and ages."

"I killed three rattlesnakes around turkey area No. 4, in Raver's Gap, last week (June 5). One of them measured 38 inches, had 12 rattles, and in its stomach was a full grown grey squirrel."

"I saw 5 young groundhogs in one of our stone rabbit huts today. They were about the size of a half grown rabbit."—Refuge Keeper Roland Turley, Bedford County.

"Saw a doe with three fawns, also a buck with knobs on it which were about four inches long. This buck had one ear; the other probably had been shot off last fall."—Refuge Keeper Chester Siegel, Lycoming County.



"So I ups and shoots this deer and he says 'Moo' and falls down."

OFFICIAL 1939 OPEN SEASONS AND BAG LIMITS

Open season includes both dates given, Sundays excepted for game. *On November 1 no hunting of any kind before 9 A. M.* With this exception, shooting hours daily are 7 A. M. to 5 P. M., except from July 1 to September 30 inclusive 6 A. M. to 7:30 P. M., E. S. T. (See separate summary for Waterfowl and Coots). Traps may not be set before 7 A. M. on the first day of the seasons for trapping in open counties. Raccoons may be hunted at night.

UPLAND GAME (Small game possession limit three days' bag)	BAG LIMITS		SEASONS	
	Day	Season	Open	Close
Woodchucks (Groundhogs)	4	Unlimited	July 1	Sept. 30
Ruffed Grouse	2	10	Nov. 1	Nov. 21
Quail, Bobwhite	5	15	Nov. 1	Nov. 21
Hungarian Partridges (3 Counties)*	2	6	Nov. 1	Nov. 21
Wild Turkey (See below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, Males only	2	12	Nov. 1	Nov. 30
Grackles (commonly called Blackbirds)	Unlimited		Nov. 1	Nov. 30
Rabbits, Cottontail	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black and Fox (combined kinds)	6	20	Nov. 1	Nov. 30
Squirrels, Red	Unlimited		Nov. 1	Sept. 30, 1940
Raccoons, all counties by individual or hunting party	3	12	Nov. 1	Dec. 31
Raccoons, by traps (See counties closed below)*		12	Nov. 10	Jan. 31, 1940
Bear, over one year old by individual (see below)*	1	1	Nov. 15	Nov. 18
Bear, over one year old by hunting party of five or more*	2	2		
Deer, male with two or more points to one antler, except that last two days in 4 counties only antlerless deer may be hunted*	1	1	Dec. 1	Dec. 15
Deer, as above, by hunting party of 6 or more*	6	6		

NO OPEN SEASON—Reeves Pheasants, Chukar Partridges, Doves, Varying Hares (Snowshoe Rabbits), Elk and Cub Bears.

MIGRATORY GAME—Rails (including Sora), Gallinules, Woodcock, Snipe, (Wilson or Jack), Wild Ducks and Geese, and Coots (Mudhens) Fixed by Federal Government. See separate summary to be issued with hunting license.

FUR-BEARERS—(Traps not to be placed before 7 A. M. on opening dates).

Minks, Opossums, Skunks	Unlimited	Nov. 10	Jan. 31, 1940
Muskrats (by trapping only)	Unlimited	Dec. 1	Jan. 31, 1940
Otters (by traps only, in 4 counties)*	3	Dec. 1	Jan. 31, 1940
Beavers (by traps only, in 21 counties)*	3	Jan. 15	Jan. 31, 1940

* SPECIAL COUNTY REGULATIONS

HUNGARIAN PARTRIDGES—Hungarian Partridges may be killed only in the counties of Lycoming, Montour and Northumberland.

TURKEY—No Turkey season in Cameron, Elk, Forest, Jefferson, McKean, Potter, Sullivan and Warren Counties.

RACCOON TRAPPING—No Raccoon trapping in Berks, Bucks, Cambria, Carbon, Chester, Delaware, Lawrence, Mercer, Montgomery and Schuylkill Counties, except by certain landowners. The Raccoon season bag limit is 12 for hunting and trapping combined.

BEAR—No Bear season in Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin and Perry Counties.

† DEER—On December 14 and 15 only antlerless deer may be hunted for and killed in Forest and Warren Counties, that part of Potter County lying north of U. S. Highway 6, and that part of Jefferson County lying northwest of U. S. Highway 119, by persons who have not killed a deer or aided in killing the hunting party limit.

OTTER TRAPPING—Otter trapping only in Monroe, Pike, Susquehanna and Wayne Counties.

BEAVER TRAPPING—Beaver trapping only in Allegheny, Bradford, Clarion, Columbia, Crawford, Elk, Forest, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Schuylkill, Snyder, Susquehanna, Tioga, Union, Venango, Wayne and Warren Counties.

SNARES—Snare without springpoles may be used for taking predators only in Cameron, Clarion, Elk, Forest, McKean, Potter and Warren Counties between December 16 and March 31, 1940.

LEGAL NOTICE

Bounty Removed from Great Horned Owl

At its meeting on May 31, 1939, the Pennsylvania Game Commission passed the following resolution removing the bounty on Great Horned Owls:

"RESOLVED, That the Commission, acting under the powers and authority vested in it by the provisions of Article XI, Section 1101, of the Act of Assembly approved June 3, 1937, P.L. 1225, hereby removes the Great Horned Owl from the bounty list and discontinues the payment of said bounty on all Great Horned Owls killed after May 31, 1939; and

"BE IT RESOLVED FURTHER, That the Director publish, in accordance with the provisions of Section 1102 of Article XI of the act aforesaid, a notice of this action in the PENNSYLVANIA GAME NEWS, also bring said action to the attention of public through other available channels, said Director being hereby authorized and directed to certify this action as and for the act of the Pennsylvania Game Commission."

I certify the above to be a true and correct copy of the resolution removing the bounty on the Great Horned Owl as adopted by the Pennsylvania Game Commission at a meeting held May 31, 1939.

SETH GORDON, Executive Director,
Pennsylvania Game Commission.

The Keystone Game, Fish & Forestry Protective Association of Shamokin has been very active this spring and summer. In February it sponsored a bird house building contest to which it donated 28 valuable prizes. On June 14 the association sponsored the first soap box derby ever held in that city in which there were 31 entries.

Deputy Game Protector George H. Burdick, Emporium, recently reported finding a doe deer with antlers in the velvet. The animal had been struck and killed by an automobile.

Paul F. Nessinger, of Hopeland, Pa., kept a record of dead game found on the highway between Hopeland and Manheim, a distance of 12 miles, during the first six months of this year. The stretch of road mentioned is macadam and Mr. Nessinger travels it every day, morning and evening. In January he observed 5 rabbits; February, 5 rabbits, 3 ringneck hens and 1 skunk; March, 13 rabbits and 2 ringneck hens; April, 19 rabbits and 3 ringneck hens; May, 11 rabbits, 1 ringneck hen and a groundhog; June, 9 rabbits, 1 ringneck hen and chick—a total of 62 rabbits, 13 pheasants, 1 skunk and 1 groundhog. Last year on the same stretch of highway he counted the first three months 26 rabbits, 6 pheasants, 2 opossums, 1 muskrat and 1 skunk.

A TRIBUTE TO A TRUE SPORTSMAN

EDITOR'S NOTE: *Probably some good Pennsylvania Sportsman would like to follow Rausenberger's excellent example. Why not?*

The death summons came to Edwin H. Rausenberger, sportsman and Spanish-American War Veteran, at Circleville, Sunday, May 21. He was one of the best known and most beloved sportsmen in Ohio. He was born May 8, 1880, in Columbus, but has resided at Circleville, and his splendid summer home at Buckeye Lake, for a number of years. He was active in the cause of conservation organizations.

He leaves a devoted wife and legions of friends who knew and valued his jovial good fellowship and earnestness in the cause of conservation.

The funeral services were held at the First M. E. Church at Circleville, May 24, with military honors at the cemetery by the U. S. Spanish War Veterans. The honorary pallbearers were: Don Waters, Conservation Commissioner of Ohio; C. M. Finrock, Secretary Western Reserve Law School; Ralph W. Sanborn, President League of Ohio Sportsmen; Bryce Browning, Secretary, Muskingum Valley Conservancy District; Bryan Sandles, Manager, Ohio State Junior Fair; Burt J. Hill, Former President, Isaak Walton League of Ohio.

The active pallbearers: Henry J. Pfeiffer, Member Ohio Conservation Council; John C. Randall, Commander Columbus Chapter 49, U. S. W. V.; Dr. J. W. Ogden, Vice President, League of Ohio Sportsmen; Lynn Bradner, Columbus Convention Bureau; Charles Roof, Spanish War Veteran; Trent Sickles, Secretary, League of Ohio Sportsmen.

The following tribute issued by the League of Ohio Sportsmen is a fitting funeral oration:

EDWIN H. RAUSENBERGER, A GRAND AND UNSELFISH SPORTSMAN, TAKES NATURE'S LAST TRAIL TO THE EVERLASTING HILLS AND LEAVES TO CONSERVATION AN ENDURING MEMORIAL, THE EDWIN H. AND NELLIE M. RAUSENBERGER CONSERVATION FOUNDATION

(His passing: Sunday, May 21, 1939)

I wish every sportsman could have known the inner soul of "Rausey," and his great devotion to all sportsmen and to the cause of conservation. He truly loved nature, in all its forms.

Rausey's religion was all that was good and great and true in nature. I wish you might have seen the peace in his soul as he left us last Sunday morning.

He loved all things and thought ill of no one. Never have I seen a rough and ready exterior, more truly and sincerely wanting to be kind to everyone.

Sportsmen little realize the great and lasting contribution which "Rausey" made to conservation in his lifetime.

Few will ever know of his years of devoted effort to bring understanding of nature's laws, and the need to conserve that which nature alone can give us as a heritage.

It will be for the generations of the future to explore the really great good that "Rausey" had in his heart. He has left the way to perpetuate his voice in the Councils of Conservation and in the Lodge of all True Sportsmen.

More than that! He leaves in perpetuity a trust fund of some \$80,000, the income from which is to be expended for Conservation education, Development and Improvement among Ohio boys and girls. It will be known as "The Edwin H. and Nellie M. Rausenberger Conservation Foundation."

It was on March 27, 1939, at the time of the Convention of the League of Ohio Sportsmen, that "Rausey" completed the setting up of the trust fund, although it was in his mind for several years.

Those who were there will remember "Rausey" coming up to the convention in the late afternoon. He knew then his program was complete as he wanted it. And he was very happy, even though he knew it was his last meeting with the sportsmen. His close friends, Henry Pfeiffer and C. M. Finrock, were with him during the hours it took to complete the setting up of this trust fund. They can tell you the satisfaction that was in his soul that day.

He knew and they knew it was not to be for long that "Rausey" would be with us. But "Rausey" was supremely happy. His soul was free because of being with all his sportsmen friends. In his heart he knew no man in Ohio's history ever made a more worthy or lasting contribution to conservation than he had just completed, for the enrichment of the generations of the future.

During the lifetime of Mrs. Rausenberger, the guaranteed income from the Foundation will go entirely to her.

After that a Board of Trustees selected by Mr. Rausenberger will administer and pass upon the projects and purposes for which the income from the Foundation will be expended. By providing that 75% of the income shall be spent each year, while the other 25% shall be added to the principal of the fund, Mr. Rausenberger has guaranteed for all time the continuation of this fine program.

The following will serve as Trustees: The Chief Justice of the Supreme Court of Ohio, the Commissioner of Conservation and Natural Resources of Ohio, the Director of Education of Ohio, the Dean of the College of Agriculture of Ohio State University, the President of the Ohio Academy of Science, the Master of Ohio State Grange, and the President of the League of Ohio Sportsmen.

Thus, from the heart and soul of a man there comes this beautiful and noble program, which he would not permit me to tell about in his lifetime.

TRENT SICKLES, *Secretary,*
League of Ohio Sportsmen.

Reprinted from *Ohio Conservation Bulletin*.

SAFETY ALWAYS PAYS

The Pennsylvania Game Commission believes that observance of the following rules will insure the greatest possible enjoyment and satisfaction for every firearm user. These safety rules have been adopted by the makers of practically all the firearms and ammunition used in this country—and they should know.

SAFETY FIRST---ALWAYS!

1. Treat every gun with the respect due a loaded gun. This is the cardinal rule of gun safety.
2. Carry only empty guns, taken down or with the action open, into your automobile, camp and home.
3. Always be sure that the barrel and action are clear of obstructions.
4. Always carry your gun so that you can control the direction of the muzzle even if you stumble.
5. Be sure of your target before you pull the trigger.
6. Never point a gun at anything you do not want to shoot.
7. Never leave your gun unattended unless you unload it first.
8. Never climb a tree or a fence with a loaded gun.
9. Never shoot at a flat hard surface or the surface of water.
10. Do not mix gunpowder and alcohol.

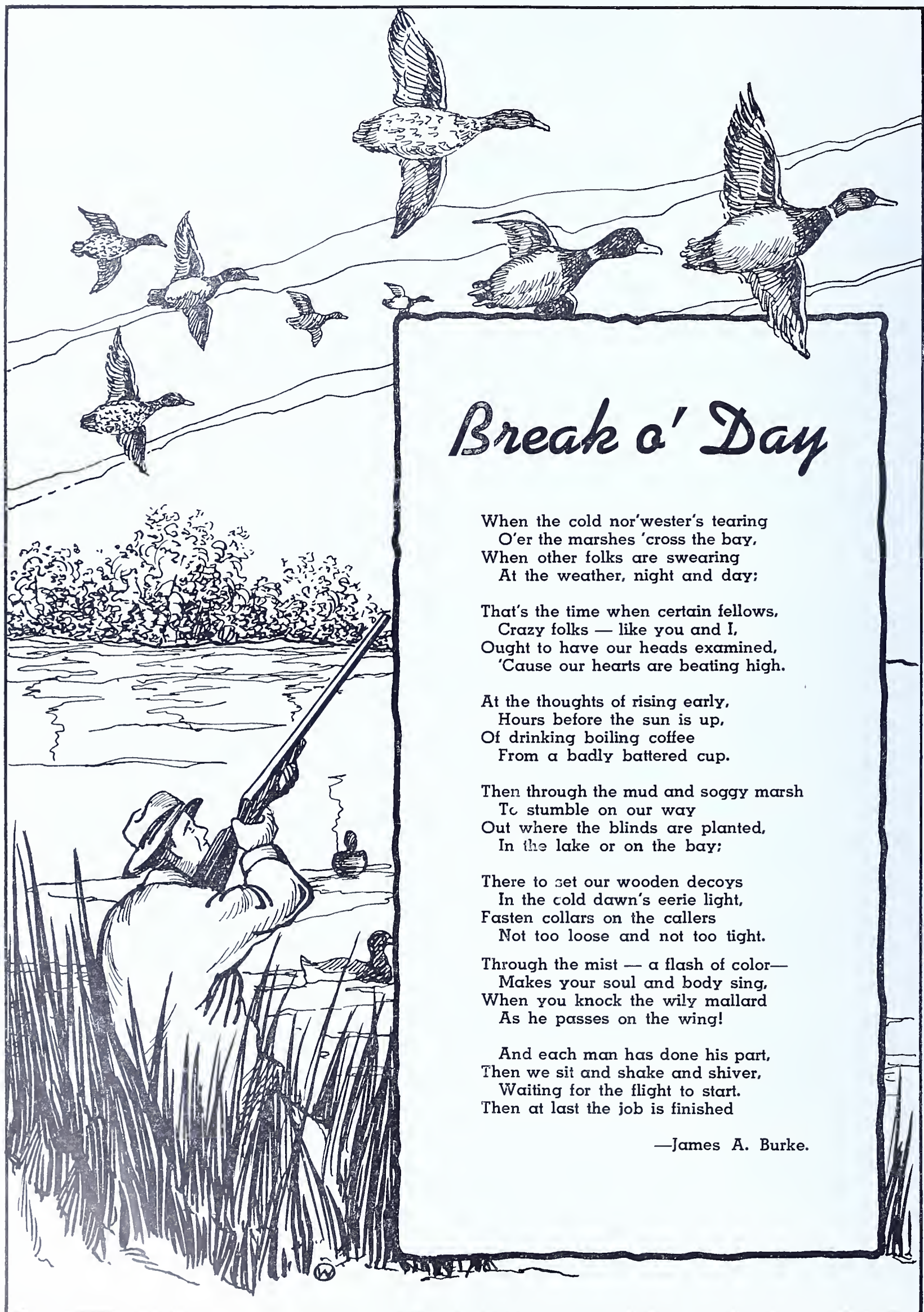
SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE

PENNSYLVANIA GAME NEWS



SEPTEMBER 1939
TEN CENTS

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Break a' Day

When the cold nor'wester's tearing
O'er the marshes 'cross the bay,
When other folks are swearing
At the weather, night and day;

That's the time when certain fellows,
Crazy folks — like you and I,
Ought to have our heads examined,
'Cause our hearts are beating high.

At the thoughts of rising early,
Hours before the sun is up,
Of drinking boiling coffee
From a badly battered cup.

Then through the mud and soggy marsh
To stumble on our way
Out where the blinds are planted,
In the lake or on the bay;

There to set our wooden decoys
In the cold dawn's eerie light,
Fasten collars on the callers
Not too loose and not too tight.

Through the mist — a flash of color—
Makes your soul and body sing,
When you knock the wily mallard
As he passes on the wing!

And each man has done his part,
Then we sit and shake and shiver,
Waiting for the flight to start.
Then at last the job is finished

—James A. Burke.

THE WILD TURKEY IN SWEDISH FORESTS

Translated from the Swedish Press and Submitted
by Major Herbert Jacobsson

THERE was a tremendous downpour in Vastergotland Saturday, November 26. The wind carried the rain in long sweeps over the fields; the woods dripped and sighed. November could hardly be more weeping than this day could be,—when the wind murmured through the fir tops and poured down water and darkness on us forest roamers.

But we did not have much interest in the weather. It was mostly when the water came through the hat and sent a cold stream down the back that we thought of it. Then it was as if something inside of us said as the farmer remarked to the barometer: "Do you feel that it is raining?"

The little hunting party was out on an unusual errand. For the first time the wild turkey must be looked for in Swedish forests. A little group had been brought up on the estate of Storeberg in Vastergotland and naturally sought the woods as their extensive home.

The "tribe" has come from a little company of wild turkeys which were sent from America in March, 1938, to the owner of the Estate of Storeberg, Major Herbert Jacobsson. It was following the well known visit of Governor Earle of Pennsylvania to Sweden, that Lieut. Colonel Nicholas Biddle, President of the Pennsylvania Game Commission, who accompanied the Governor on his visit, arranged for the exchange of four hens and three gobblers of the splendid Pennsylvania family of wild turkeys in return for some of Major Jacobsson's fine ringneck and mon-golian pheasants, which were shipped to the Pennsylvania Game Farms. The wild turkeys thrived on Storeberg in a "mild" captivity, laid eggs which were taken care of by brooding hens with the heart in the right spot.

It almost seemed as if the wild turkeys showed a suspicion of the strange country by producing almost exclusively male descendants, with a thought of defense, I presume, in dangerous situations. In any event the first grown-up brood of wild turkeys is now parading around out in the woods of Storeberg. Fifteen turkey cocks guarding the security of three hens. The master hunter, Major Jacobsson, has found this to be somewhat liberal, as sooner or later some young hero might break away from the company and go farther on dangerous uncontrolled expeditions. It would be better, he thought, to get one or more of this unique game for the pot while it was still time.

And, therefore, a small party of hunters are wandering around in the rain, preceded by Major Jacobsson who in turn is preceded by the splendid dog, Chow-Chow, who to begin with is our hope.

In contrast to the sweet English setters on the estate, Chow Chow is interested in the wild turkey, and has been given the unique task of leading the hunt. I can tell you that he, without hesitation, placed himself at our disposal. And with a face that contains the wisdom of millenniums of Chinese culture, this red witch trots along in the lead and soon begins to make small circles into the brush.

How the matter really should be handled, we of course had no idea. A lady who had tried the experience in the United States of America had, on being asked about it, reported that one would have to run a great deal if one desired to hunt the wild turkey. Her idea of this kind of a hunt turned out to be surprisingly correct. But for the time being, the information was quite obscure. To me it seemed that the end would be that after the flock had been located it would be compelled to take to the air towards the hunters placed on lookouts in various directions. A wild turkey in flight through the woods should be a sensation,—and place real requirements on the hunter.

The wild turkey in his American homeland—Mexico, Kentucky, Pennsylvania and other states in the Union, is a constantly traveling bird, as a rule marching along in a flock. He is supposed to be unbelievably



It was followed by a whole flock.

foolish and hysterically inclined with a tendency to "faint" if suddenly surprised. But at the same time he is wide awake and shy, and indeed not a game bird easy to get at.

The latter we were to experience in a full and complete measure.

Chow-Chow thought it was wet among the young birch trees and began to let us understand that the wild turkey, everything said and done, was something quite uninteresting. He shook his shaggy head and sent oblique Chinese glances towards heaven at the squirrels. The hunters also looked up into the trees,—after the large birds we were seeking. The wild turkey is supposed to select a place in the trees in the evening and often sits way up in the tops for the night. But does he do that in rain weather? We knew it not. A couple of grouse cocks confused us a little,—a little shock in the system—and a company of owls in a young fir tree distracted us.

The company of hunters went over to other districts of the woods, the setters were let go and the result was a few partridge cocks which died in the edge of the forest, but of a wild turkey not a sign. The hours went by, the rain continued. Soon the day would be over. We held a council of war and it was

decided that the first district should be examined anew, a last chance for the day.

The local hunter and the undersigned had a difficult trip through the young forest as we from time to time saw a glance of the running setters. My sore foot hurt, the water ran down around the ears and it was not very pleasant. But it was, as far as we know, the first Swedish hunt of wild turkey, and the excitement was unquestionably somewhat excessive after all the excited seeking.

After a long time we turned into a path through the woods. In a bend some distance away a large bird runs over the path with its long legs. It is followed by many, a whole flock. There we have them. It is the master hunter himself and the director of the estate, Agronom Lind, who had run into the flock at the edge of the forest and driven it into the woods in front of us. In company with the hunter and Victor Hasseblad, armed with a film camera, I make a terrible dash in order to cut across the track of the cocks with their three hens. It did not become a long story. We were soon quite close to them. While they, being somewhat surprised, walked up and down the little hills covered with moss in the pine forest. In a few minutes I was within range of the flock as it was running close together. But I had no taste for such an opportunity! I could not make myself shoot, even if the situation was unique and we were supposed to bring in the stake. The hunter had to look after his chained dogs. Vicke brought forth the film apparatus without getting within range. I ran faster in order to get the birds to fly up, but stumbled in the moss and got an attack of coughing and was out of the game.

It became quiet and lonely and not knowing much about where I was I wandered around wet through and tired out. In the distance a couple of muffled shots.

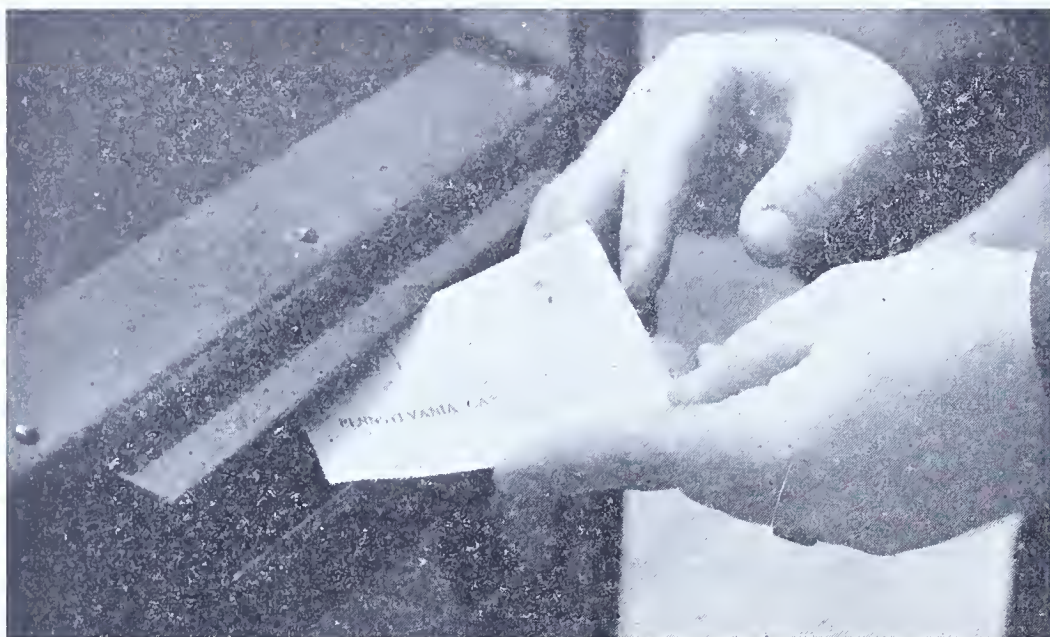
I followed in the direction of the sound. I stopped at the edge of a clearing and there three splendid cocks ran with their heads down at the other edge of the clearing. Wild turkeys! Sensational! And now, my disappointment had removed all scruples. The hunter's wife must have her turkey whether it ran or flew. A new and long march over stalk and stone across ditches in the woods, swampy places, bushes and little hills. Here and there a glimpse of the running birds who now had learned to use their long legs. But the distances were too uncertain.

And thus these strangers in the woods disappeared in the falling darkness.

I finally got myself out of the woods and found the hunter and Lind waiting for me. The two shots I had heard indicated two wild turkey cocks which were brought down at the edge of the woods where they had been driven forth by forced running. The first one to kill a wild turkey on Swedish ground came to be Agronom Lind, Storeberg. As a good second came Director Victor Hasselblad Goteberg. Which is hereby written down for the information of posterity.

Space does not allow me to discuss the possibilities of a wild turkey brood in our

(Continued on Page 27)



Hunter mailing his self-addressed Game-Kill Report. Figure 1, left, on Page 30, shows reverse side of this report.



A typical early morning scene in the Mailing Room of the Game Commission during December when the bulk of the Game-Kill Reports are received.



Figure 2. Operator punching game tabulating cards.

WHAT BECOMES

By N. E. SLAYBAUGH

“WHAT becomes of my Game-Kill Report?” is a question frequently asked by many of Pennsylvania's 650,000 licensed hunters. Because of the current genuine interest on the part of the sportsmen in filing their Game-Kill Reports, especially for 1937 and 1938, and the astounding revelations therefrom, it is deemed advisable and timely to take the sportsmen back of the curtain and let them see the many interesting things involved in the tabulation of their reports.

It was in 1920 that the Commission for the first time requested hunters to file a Game-Kill Report. At that time it was purely on a voluntary basis, but requiring first class postage and an envelope. This system did not prove satisfactory, because after the first year only a very limited number of hunters filed their reports. The next step taken to improve this condition was in 1923, when the Game Law was codified. It stipulated that the report should be filed within thirty days after expiration of the license under a \$20.00 penalty. As in the original attempt, a fair number of hunters filed reports the next year, but thereafter the number received furnished only the basis for sample-lot tabulations to compare against the estimates of the kill made by our Field Officers.

The Law Modified in 1937

Being perplexed because of the inefficiency of the voluntary system established in 1920, which was supplanted by the mandatory requirements in 1923, the next important step taken by the Commission was in 1936 when a business reply report was furnished with each license, the Commission agreeing to pay the postage on all reports filed. Under this system about 80,000 Game-Kill Reports were submitted, by far the greatest number since 1920, but still a very small percentage of the total number of licenses sold during that year.

The next move by the Commission to improve this condition was taken in 1937 at which time a conference was held with the directors of the Federation of Sportsmen's Clubs. There was an open and frank discussion on this subject, and it was the consensus of opinion that these reports are of real importance in the management of the State's game supply. It was further agreed that the penalty should be reduced from \$20.00 to \$2.00, then actually require each hunter to send a Game-Kill Report to the Commission by January 15, or be fined accordingly.

In 1937, when the Game Code was recodified, the penalty for failure to file a Game-Kill Report was fixed at \$2.00. This new system, as explained below, is producing very satisfactory results.

The Game-Kill Report

In doing this tabulation we start out with the Game-Kill Report, which is a part of every Hunter's License. As a matter of convenience to the sportsmen, this part of the license is self-addressed, requiring only a few minutes of time and a one-cent postage stamp to comply with the provisions of the Game Code. No request which the Com-

OF YOUR GAME KILL REPORT?

mission makes of the licensed hunters involving so little effort yields such big dividends. There is reproduced with this article a typical Game-Kill Report filed as required by law (Figure 1—Left, Page 30).

Mechanics Involved in Tabulation

The detailed work incident to the tabulation of over 635,000 Game-Kill Reports is such that it would be next to impossible (and the cost would be prohibitive) to do the job manually. For this reason the Commission entered into a contract with a reputable, experienced agency to do the complete job. The company employed punches a card for each and every Game-Kill Report received, which becomes the medium for the several mechanical operations which follow. Below we are listing in the order in which they occur the operations involved:

(1) The first operation is the punching of the card for each and every report. By referring to the card herein reproduced (Figure 1—Top) it will be observed that it contains all the essential information as it appears on the Game-Kill Report. The license number, game kill, etc., as it appears on the report (Figure 1—Left) has been punched out on the card, designated as Figure 1—Top. A close study of the card reveals the fact that the numerals as punched out represent the license number of the hunter and the number and species of game killed. The machine which performs the work is operated by a skilled employee, shown in Figure 2.

(2) The next operation, and the most important of all, is the checking of the correctness of the punched cards. This is accomplished by running the punched cards through an electric accounting machine which translates the punched "holes" into license numbers and the number and species of game as listed on the original report. At this point the verifier takes the original report and checks the license number, etc., against the information which appears on the list above explained. When discrepancies are noted, the incorrectly punched card is withdrawn and a new card punched to take its place.

Since this operation depends upon human beings, and none of us is infallible, it is reasonable to expect that a minimum number of errors may occur, with the result that a few persons may not get credit for filing their report. Either this or loss in the mails explains why a very limited number of persons who had filed reports received double mailing cards stating that their reports failed to show up in the tabulation.

Machine Does Uncanny Job

(3) The next operation is that of tabulating the punched cards, mill run, in multiples of ten thousand (10,000) reports. This is done in order to get a good cross-section of the kill. It is interesting to note that, according to the well established law of averages, the kill for each 10,000-group is strikingly consistent. The machine which performs this

(Continued on Page 30)

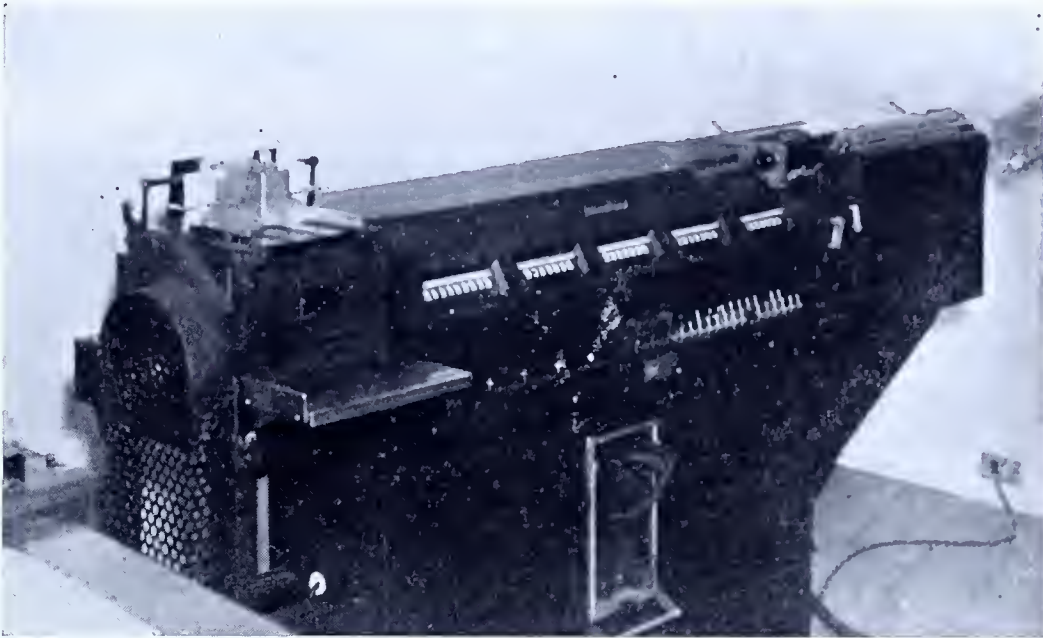


Figure 3. The punched cards go through this electric tabulating machine.

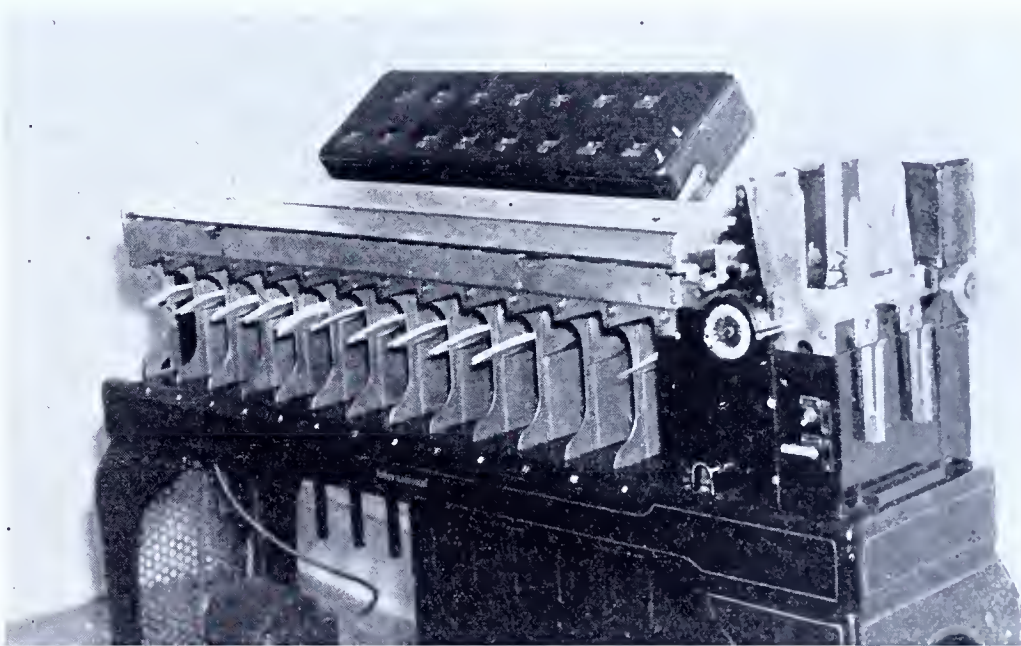
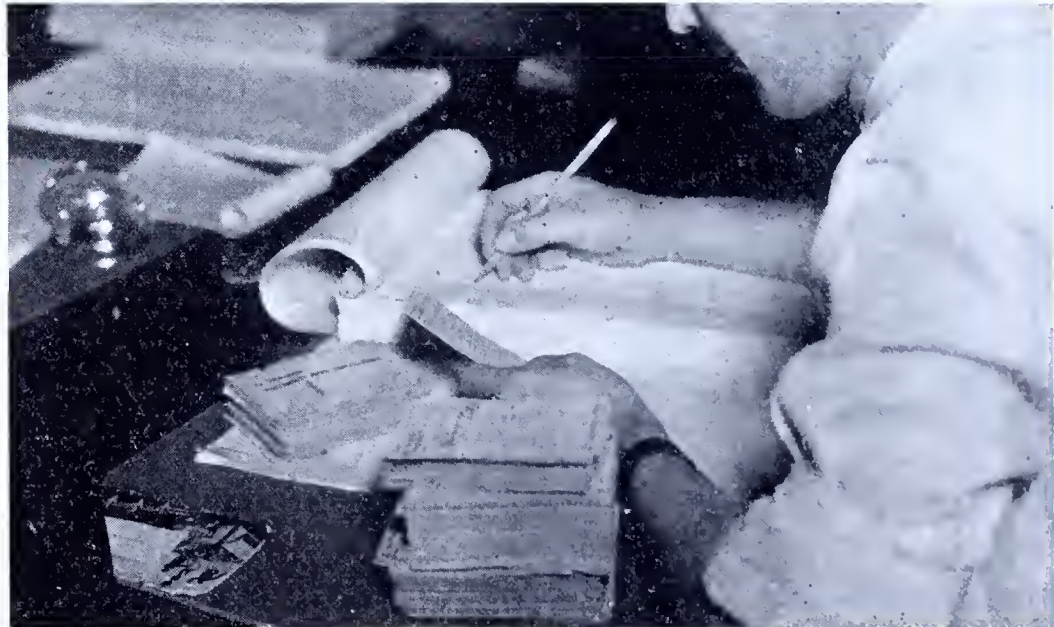


Figure 4. All punched cards are sorted by this electric machine.



Verifying correctness of the list of punched cards against the original Game-Kill Reports as tabulated.

THE VALUE OF GROUNDHOG HOLES

By RICHARD GERSTELL

Introduction

PENNSYLVANIA conservation officials have long contended that the common groundhog, or woodchuck, (*Marmota monax*) is an invaluable ally of the cottontail rabbit, the State's most popular game animal. The basis for the contention lies in the belief that the "whistle pigs" dig the holes, or burrows, upon which the rabbits must depend to a large extent for shelter from the rigors of winter. Thus, under the provisions of the 1937 Game Code the groundhog was classed as a game animal both to assure the preservation of the species because of its value to the rabbit and to allow for the proper control over those rifle enthusiasts who so eagerly pursue the animal for sport.

Also in 1937, the Game Commission, through its Division of Research, inaugurated a series of studies designed to determine the exact relationship between the woodchuck and the cottontail rabbit. This research has involved both field and laboratory investigations. To date the work has by no means been completed, but because of numerous recent discussions concerning the groundhog-rabbit relationship, it is deemed advisable to present a summary of certain of the highlights of the findings already made. These are briefly outlined in the paragraphs which follow.

The Field Studies

The field investigations include a number of different problems, principal among which has been a microclimatic study designed to discover exactly what advantages holes, or burrows, present in respect to their desirability as shelters from unfavorable meteor-

ological conditions. Obviously they offer mechanical protection from precipitation in various forms, including snow, sleet and rain. Likewise, they provide escape from cold winds and direct exposure to the rays of the sun, but these are also found in small cran- nies in rocks, in fallen logs and other environmental "pockets" which are not so commonly frequented by various mammals which are known, or believed to be, enemies of the rabbit. Thus, it was felt that air tempera-

tures might be far more instrumental in attracting the cottontails to holes than are the mechanical protections there offered.

To check the part which differences in environmental temperatures throughout various parts of the rabbit's natural habitat might play in the seasonal distribution of the animals, a study of the maximum and minimum temperatures at different points was made and compared to the figures obtained from a standard weather station specially located in the same area. This was done by placing maximum-minimum recording thermometers at various points within the study plot. Among the sites selected were sheltered "forms" known at times to be occupied by cottontails, groundhog holes, the interior of corn shocks, hollow logs and stumps, open fields and numerous other spots naturally frequented by various species of birds and mammals. The thermometers were regularly read at twenty-four hour intervals and the maximum and minimum temperatures recorded daily on a large master sheet. Data for the winters 1937-38 and 1938-39 are now on hand.

A study of the statistics readily showed the exact desirability of a hole from the viewpoint of favorable environmental temperatures. For example, in Table I, the figures obtained from four "field stations" plus those from the standard station for a two-week period in January 1939 are recorded side by side. Station No. 16 (Figure 1) represented a point in a hollow log; Station No. 17 (Figure 2) presented the readings obtained 36 inches from the mouth of a hole known to be occupied both by a hibernating groundhog and an active rabbit; Station No. 19 (Figure 3) was located in a hollow stump; while Station No. 22 (Figure 4) was placed in a rabbit "form" at the base of a small pine tree.



Figure 1. Site of Station No. 16 located in hollow log.



Figure 2. Site of Station No. 17 located in groundhog hole.

AS WINTER RETREATS FOR RABBITS



Figure 3. Site of Station No. 19 located in hollow stump.

the colder months, only a few of the more important rabbit experiments will be herein discussed.

For the conduction of the laboratory studies the climoactometer recently constructed by the Commission was employed. This device has been fully described elsewhere (Pennsylvania Game Commission, Research Circular No. 1). Thus, suffice it to say that this is a large chamber wherein practically any desired climatic conditions can be accurately simulated while the muscular activity of the animals confined therein is automatically recorded on moving ribbons of paper.

First of all it was necessary to gain some idea of the length of time cottontails could "withstand" low environmental temperatures without the benefit of food or water. Accordingly, five live-trapped native Pennsylvania cottontails were placed in the climoactometer in separate cages. The temperature was held at 0°F. and the air movement at 6.0 miles per hour. It was found that the animals lived from 10 to 173 hours with an average survival time of 60.5 hours. Control animals kept without food or water at room temperatures ranging from 35° to 45°F. were without exception found to survive a period of 120 hours.

In other instances experiments were carried out in an effort to determine whether a rabbit provided with an artificial burrow in the climoactometer could withstand conditions under which a second animal without such protection would succumb. A portion of the results obtained from one of these experiments is presented in Table III.

In this case the climatic chamber was divided into two sections of equal size. One half contained an artificial burrow in the (Please turn Page)

The Laboratory Studies

The laboratory investigations dealing with the rabbit-groundhog relationship have been concerned with the effects of varied environmental temperatures upon the general physiology, body temperature and activity of the two species of animals. Since this paper is concerned with the value of groundhog holes as winter retreats for cottontails and since the woodchucks are in hibernation during

Examination of the figures will reveal the fact that in the standard instrument shed the temperatures from January 10 to 24, inclusive, ranged from 1° to 47° above zero on the Fahrenheit scale. In the hollow log the range was approximately the same extending from 1° to 53°F. The stump showed a maximum of only 40°F. with a low of -4°F., while the "form" under the pine produced a high of 57°F. and a low of -5°F. During the same period, however, the maximum in the hole was 37°F. while the minimum was only 22°, representing on most days an almost constant temperature of approximately 33°F. with a total range less than one-third that encountered in any of the other four stations.

Similar records were obtained from all holes studied during the two winters, but to give an even clearer picture of temperatures in burrows as compared to those outside there is set forth in Table II a portion of the data gathered from two thermometers, one located just outside a woodchuck hole and the other on a tree a few feet from the entrance to the burrow (Figure 5). Study of these figures discloses the fact that from February 1 to 20, 1938, the environmental temperatures outside the hole ranged from a low of 8°F. to a high of 74°F., while the range within (36 inches from mouth) extended only from 24° to 36°F., remaining for the most part in the low thirties.

On the whole, it would appear as if the groundhog holes provide the cottontails with a dry, windless, out-of-the-way, "air-conditioned" retreat which admirably protects them from the elements. It is, of course, true that for man the temperature range within the holes would prove uncomfortably low, but for the rabbits with their fine coat of fur and relative paucity of sweat glands the conditions doubtless are quite comfortable.



Figure 4. Station No. 22 located in rabbit "farm" at base of small pine tree.



Figure 5. Dual station with one thermometer in hole at foot of wall and second on base of tree at top of wall.

bottom of which was placed an activity relay for the purpose of recording the amount of time spent in the hole by the rabbit. The other half contained no such shelter. One rabbit with ample supplies of food and water was placed in each side of the divided chamber while two controls were held in separate cages placed in the laboratory room where the recorded temperatures ranged from 33° to 46°F.

During the first 48 hours the animals were placed in the chamber and allowed to become acclimated without being subjected to disturbances of any sort. At the end of this period the actual experiments were begun. From 7:00 A. M. to 6:00 P. M. the chamber was flooded with bright lights to simulate the daytime, while from 6:00 P. M. to 7:00

A. M. night was simulated by a very dim lamp. Each night from 6:00 P. M. to 2:00 A. M. (when rabbits are normally most active) a record of the time the one rabbit spent in the burrow was recorded. Once every 24 hours the animals were weighed, their body temperature recorded and other significant data obtained. During the first five days the chamber temperature was constantly held at 34°F. For the second period of five days a nighttime temperature of 20°F. and a daytime reading of 40°F. were maintained, while the figure for the remainder of the period was 0°F.

Careful examination of the figures presented in the table brings to light a number of interesting and significant points, not all of which can as yet be fully explained. In the

first place, it was found that during the course of experimentation the control animals, which were never exposed to environmental temperatures below 33°F., showed only a very small loss in body weight. The experimental animal which had access to the hole showed a loss only slightly larger than that exhibited by the controls, while the specimen with no place of shelter lost a total of .79 pounds, representing 32% of its initial body weight. Also significant is the fact that both the control animals, as well as the specimen which had access to the burrow, showed both gains and losses in weight during all periods of study, while the rabbit without benefit of a hole showed gains only during the time when the environmental temperature was constantly held above the freezing point.

Secondly, the statistics indicate that factors other than environmental temperature influence the quantity of food taken during a given period. If only the figures for the two experimental animals were considered, it might be concluded that the lower environmental temperatures utilized during the latter part of the experiment resulted, in general, in increased food consumption. The data obtained from the check individuals, however, shows that those specimens also exhibited an increased intake during the latter part of the experiment regardless of the fact that they were not subjected to lowered environmental temperatures.

Thirdly, the amount of time which the one experimental animal spent in the hole provided for its protection is of particular interest. Computation of the records obtained from the actometer shows that at 34°F. the animal spent only a few seconds in the burrow; that during the period when the nighttime temperature was 20°F. the rabbit was in the hole 33.8% of the time; while at 0°F. the specimen was in the shelter 56.6% of the experimental period. The last figure is exclusive of the night of March 24, when the air-movement through the chamber was reduced from 6.0 to 0.0 miles per hour and the animal never entered the burrow.

TABLE I
DAILY TEMPERATURE EXTREMES AT DIFFERENT POINTS WITHIN
A NATURAL RABBIT HABITAT

(Temperature in °F. 1939 Data. See Figures 1 to 4 for Thermometer Locations)

DATE	THERMOGRAPH IN STANDARD SHED		STATION No. 16 In Hollow Log		STATION No. 17 In Groundhog Hole		STATION No. 19 In Hollow Stump		STATION No. 22 Under Pine Tree	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
January 10	39	47	31	42	32	36	30	35	30	49
January 11	30	42	32	53	35	37	33	40	30	57
January 12	25	46	28	43	33	36	30	39	24	46
January 13	23	28	25	37	32	34	28	33	21	43
January 14	18	27	24	29	32	34	29	32	23	30
January 15	3	33	4	29	32	34	-4	32	-4	30
January 16	13	28	12	34	30	33	7	27	3	30
January 17	25	31	20	29	32	33	20	30	18	31
January 18	21	25	24	32	30	33	24	31	21	33
January 19	13	26	21	29	32	34	21	29	18	27
January 20	1	25	1	37	27	33	-2	24	-5	25
January 21	21	33	10	36	26	31	7	26	5	25
January 22	14	37	23	36	32	33	25	32	24	36
January 23	6	25	7	35	28	33	2	31	-1	34
January 24	13	31	12	31	22	30	4	26	5	29

Finally, the fact that the rabbit with no shelter succumbed after approximately 100 hours at 0°F., while the three remaining individuals readily survived over 120 additional hours of experimentation appears of significance, especially in view of similar results obtained from other experiments.

All in all, the laboratory tests so far conducted would seem clearly to indicate that

TABLE II

DAILY TEMPERATURE EXTREMES
OUTSIDE AND INSIDE
GROUNDHOG HOLE

(1938 Data. See Figure 5 for Thermometer Locations)

DATE	Outside Temperatures		Hole Temperatures	
	Min. (°F.)	Max. (°F.)	Min. (°F.)	Max. (°F.)
February 1	10	48	28	36
February 2	12	50	24	30
February 3	26	40	28	32
February 4	34	60	32	34
February 5	20	60	30	32
February 6	34	54	32	34
February 7	40	62	32	34
February 8	18	62	30	34
February 9	38	52	32	34
February 10	30	60	32	34
February 11	14	54	30	36
February 12	22	30	32	32
February 13	28	36	34	34
February 14	32	74	34	34
February 15	16	70	30	34
February 16	8	54	30	32
February 17	12	54	28	32
February 18	34	36	32	32
February 19	34	56	32	34
February 20	30	44	34	34



Figure 6. Investigator checking thermometer from muskrat hole.

compared to wild-reared ringneck pheasants (which in certain instances have been found to be capable of enduring a period of 19 days at 0°F. without food or water) and other avian forms, the cottontail rabbit **without adequate cover** is able successfully to withstand only relatively short periods of cold weather.

Summary and Conclusions

Though the investigations outlined and inaugurated in 1937 have been only partially completed, the results so far obtained appear

to substantiate the long-held belief that the groundhog is highly beneficial to the cottontail rabbit in that the former supplies the latter with unusually desirable winter retreats in the form of underground burrows.

The completion of additional field and laboratory studies will doubtless show the exact extent to which the rabbits utilize the groundhog holes during all seasons of the year, as well as their specific need for such shelters during climatic extremes both hot and cold.

TABLE III

ABILITY OF COTTONTAIL RABBITS TO WITHSTAND LOW ENVIRONMENTAL TEMPERATURES WITH AND WITHOUT SHELTER PROVIDED BY A BURROW

(See Text for Detailed Explanation)

DATE	TEMPERATURE (°F.)	EXPERIMENTAL RABBIT PROVIDED WITH SHELTER HOLE			EXPERIMENTAL RABBIT WITH NO SHELTER HOLE		CONTROL ANIMALS OUTSIDE THE EXPERIMENTAL CHAMBER 33°-46°F.			
		WEIGHT CHANGE	FOOD CONSUMP.	% OF TIME SPENT IN HOLE	WEIGHT CHANGE	FOOD CONSUMP.	WEIGHT CHANGE		FOOD CONSUMPTION	
							No. 1	No. 2	No. 1	No. 2
3/6/39	34	-.06 lbs.	.03 lbs.	None	+.03 lbs.	.02 lbs.	-.01 lbs.	-.05 lbs.	.06 lbs.	.05 lbs.
3/7/39	34	+.02 lbs.	.00 lbs.	Few Seconds	+.02 lbs.	.07 lbs.	+.03 lbs.	+.02 lbs.	.09 lbs.	.05 lbs.
3/8/39	34	+.07 lbs.	.07 lbs.	Few Seconds	+.01 lbs.	.07 lbs.	-.07 lbs.	+.04 lbs.	.01 lbs.	.07 lbs.
3/9/39	34	.00 lbs.	.04 lbs.	Few Seconds	-.01 lbs.	.07 lbs.	+.01 lbs.	-.03 lbs.	.04 lbs.	.06 lbs.
3/10/39	34	+.04 lbs.	.13 lbs.	None	-.09 lbs.	.20 lbs.	-.01 lbs.	+.01 lbs.	.17 lbs.	.12 lbs.
3/11/39	20-40a	+.04 lbs.	.08 lbs.	None	-.07 lbs.	.05 lbs.	-.03 lbs.	.00 lbs.	.13 lbs.	.03 lbs.
3/12/39	20-40a	-.11 lbs.	.11 lbs.	55.1%	-.06 lbs.	.02 lbs.	-.13 lbs.	-.13 lbs.	.05 lbs.	.03 lbs.
3/13/39	20-40a	+.01 lbs.	.10 lbs.	25.0%	.00 lbs.	.05 lbs.	+.12 lbs.	+.15 lbs.	.15 lbs.	.08 lbs.
3/14/39	20-40a	-.11 lbs.	.09 lbs.	38.5%	-.09 lbs.	.13 lbs.	-.09 lbs.	-.06 lbs.	.06 lbs.	.05 lbs.
3/15/39	20-40a	+.02 lbs.	.17 lbs.	48.7%	-.05 lbs.	.15 lbs.	+.10 lbs.	-.20 lbs.	.14 lbs.	.10 lbs.
3/16/39	0	-.10 lbs.	.15 lbs.	(No Record)	-.17 lbs.	.16 lbs.	+.05 lbs.	+.13 lbs.	.16 lbs.	.11 lbs.
3/17/39	0	-.10 lbs.	.12 lbs.	52.0%	-.05 lbs.	.14 lbs.	-.15 lbs.	+.02 lbs.	.05 lbs.	.11 lbs.
3/18/39	0	-.05 lbs.	.16 lbs.	53.3%	-.02 lbs.	.13 lbs.	+.17 lbs.	+.01 lbs.	.18 lbs.	.15 lbs.
3/19/39	0	+.02 lbs.	.14 lbs.	53.1%	-.07 lbs.	.09 lbs.	-.06 lbs.	+.01 lbs.	.18 lbs.	.17 lbs.
3/20/39	0	.00 lbs.	.09 lbs.	11.0%	-.10 lbs.	.04 lbs.	+.07 lbs.	+.03 lbs.	.18 lbs.	.16 lbs.
3/21/39	0	-.07 lbs.	.15 lbs.	87.1%	Dead	Dead	+.01 lbs.	-.08 lbs.	.20 lbs.	.10 lbs.
3/22/39	0	+.10 lbs.	.20 lbs.	80.0%	....	....	-.09 lbs.	-.07 lbs.	.13 lbs.	.06 lbs.
3/23/39	0	+.01 lbs.	.23 lbs.	None b	....	....	+.08 lbs.	+.10 lbs.	.21 lbs.	.15 lbs.
3/24/39	0	+.08 lbs.c	.22 lbs.	(No Record)	....	....	-.10 lbs.c	+.06 lbs.c	.12 lbs.	.15 lbs.

NOTES: a—Daytime temperature 40°, nighttime 20°.
b—Reduced air movement (see text).
c—Kept alive for more than 120 hours after death of experimental animal with no shelter hole.

THE FLIGHT'S ON

by

Stewart Parnell

"BONG, BONG, BONG" The great clock in the courthouse steeple boomed the hour of ten. Attorneys and court officials lounged, gossiped, waiting for court to open. Made alert by the striking clock, the court crier, marking the approach of the judge from his chambers, crashed his gavel three times on an ancient marble brick, summoning the audience to rise in deference to that august personage. Ponderously, with eloquent dignity, Judge Buckingham ascended the bench, facing the assembled throng.

The court crier chanted the historic ritual, the meaning of which few knew or else had forgotten: "Oh yes, Oh yes, Oh yes, all manner of persons having business to do with the Honorable, the Judges of the Court of Common Pleas of Mingo County now holden draw near and ye shall be heard. Now the Court sits. God save the Commonwealth and this Honorable Court."

At the final tap of the gavel, Judge Buckingham settled his huge form. The audience subsided, rustling, humming in subdued fashion, crackling papers. Convened in due and legal form, the court began to function. Attorneys, seizing the opportunity of the opening hour, interrupted to present sundry motions for consideration, orders for signature, and other legal maneuvering.

Burke fidgeted. Ordinarily calm, poised, deliberate, he exhibited definite impatience in manner and attitude. Employed by the Department of Justice his work required him to appear as attorney for the Commonwealth in certain types of litigation throughout the several counties. His case was the final case of the October Term. They had taken testimony and opposing counsel had made his closing argument yesterday, leaving only the

argument of Burke representing the Commonwealth to complete the presentation of the case for the court's decision.

The previous evening, Burke had called his home some one hundred and twenty-five miles away to make his usual inquiry as to the health and happiness of his family. Gib, his oldest son, during the round robin conversation between Burke and his wife and two sons, said excitedly:

"The flight's on, Dad! That last storm in Canada is sure shoving the woodcock down! Come on home and we'll go hunting!"

Burke's eyes lighted: "Let's see. Tomorrow's Friday. We ought to finish this case by noon. That would give me time to drive home and get ready to hunt Saturday. If its in the wood, you can bet I'll make it!"

At last, Judge Buckingham woke Burke out of his reverie by announcing: "If there are no further motions, we will hear the closing argument of Mr. Burke, representing the Commonwealth in the case continued from yesterday. Proceed, Mr. Burke!"

Gathering his papers, Burke addressed the court, although his mind was inclined to wander a bit, his remarks were more routine than usual, and his eyes frequently sought the clock. Burke attempted to do full justice

to the cause but managed to end his argument before the court adjourned at noon. Judge Buckingham said: "We will reserve our decision in this matter, briefs to be filed by counsel within the usual period of ten days. This case concludes the list for this term of court. Adjourn court until ten o'clock next Monday morning!"

Burke hurried from the courthouse to his hotel, packed his bag, checked out, and was soon driving toward home at the top speed permitted by law. All matters legal rapidly receded from his mind as he contemplated the joys of woodcock hunting which would be his privilege tomorrow. He made a mental note not to forget that he and Gib would need hunting licenses. Gib was thirteen years of age now and the law required him to take out a hunting license.

Burke wondered how his dog, Boz, a black and white, tan-ticked English setter, would perform. Boz, a veteran of five seasons, was acknowledged to be a finished dog on woodcock and about three-fourths schooled on grouse. Last year, Boz had thrilled his master by pointing and holding woodcock and grouse until hunting companions had time to come fifty yards and more through the brush and take the shots, a gratifying spectacle which never fails to warm the heart of a bird hunter. By past performances, Boz had earned the reputation of an outstanding woodcock and grouse dog. Careful, cautious, steady, intelligent, Boz made bird hunting a rare delight by his intuitive handling of the feathered thunderbolts, regardless of the marksmanship of mere men although the reproach and eventual disgust in his eyes soon shamed the author of too many misses.

In the lore of bird hunting, the princely woodcock has not received merited recognition. He is the humorist, the Puck, among game birds. A favorite with gourmets due to dark, richly flavored meat, the woodcock is a gnome-like fellow, his four inch bill protruding from a pert head making him seem a bit comical, impish, saucy.

Known in ornithology as *Philohela minor*, woodcock is the popular name of game birds commonly regarded as of the same genus with snipes but of more bulky form than the true snipes and having shorter and stronger legs. It is chiefly to be found in moist woods, swamps, and along streams, seeking for worms, snails, and slugs as food, boring with its long bill in the soft ground. The quantity of food, which it devours, is very great. The American woodcock averages about eleven inches long, slightly larger than a northern quail; the upper parts varied with ruddy, yellowish, and ash color, finely intermingled and marked by large black spots; the lower parts yellowish red with brown zigzag lines; the quills striped with red and black on the outer edge; the tail feathers tipped with gray above and white below; three black transverse bands mark the hinder part of the head.



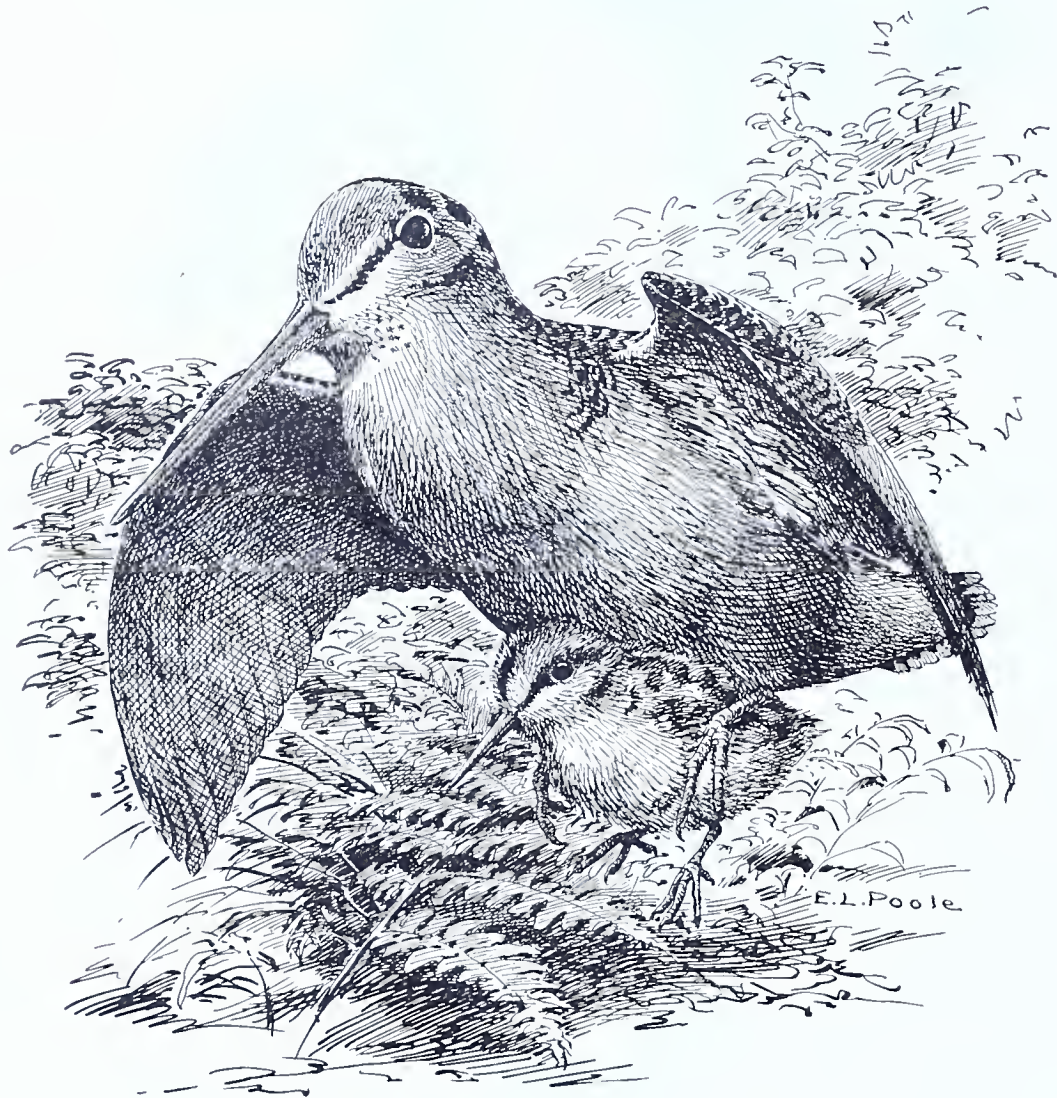
The female is rather stouter and larger than the male. The woodcock makes its nest on warm, dry locations, on the ground, of dead leaves loosely laid together. It lays only three or four eggs of a pale yellowish or reddish-brown color. As woodcocks usually breed in very dry situations in the recesses of thick woods, the young ones would be left to starve but for the peculiar adaptation which enables the parents to transport them to moist feeding grounds. It was long believed that the female woodcock used only her feet for carrying her young from place to place. However, recent observation has found that she carries her young, even when larger than a snipe, not in her claws, which seem quite incapable of holding any weight, but by clasping the little bird tightly between her thighs, and so holding it tight toward her body.

The woodcock is a superb game bird. An inhabitant of the thick luxuriant growth choking low, marshy stretches and crowding banks of streams or of adjacent woodland retreats, he is difficult to flush; yet, he does not run but lays close, which makes possible beautiful, brilliant performances in locating and pointing by properly-schooled bird dogs. Relying upon dense cover and the camouflage of its plumage, the woodcock will crouch immovable until man or dog are within a few feet. In fact, woodcock frequently explode from around the very feet of the hunter, spiraling upward, uttering its peculiar whistling cry, leveling off abruptly, then swooping and twisting in its uncertain flight, soon to alight within fifty yards and in thick brush. Due to thick cover, startling flush, tortuous flight just skimming the top of the brush, then darting down again to the sanctuary of tangled weeds and undergrowth, the woodcock presents a momentary, vanishing target that requires quick, accurate shooting. There is great similarity in hunting woodcock and ruffed grouse. In fact, a dog that handles woodcock well is generally a good grouse dog. Unless he has a keen woodcock dog, a hunter may traverse good woodcock territory, accidentally rout a bird or two, and pass within close proximity to literally dozens of woodcocks. This bird abounds throughout North America, especially where moist woods, swamps, thick brush including alders, banks of streams, are found. Failure to locate woodcock results in the main from ignorance of its habitat or lack of a woodcock dog.

The woodcock is a migratory bird, flying southward from Canada and the northern United States as cold weather freezes the mud, thus preventing from boring therein for its daily fare of grubs, slugs, snails, and worms. Eventually driven to southern climes where frigid ground does not interfere with food, the woodcock endures the rigors of winter amid balmy breezes in true vacation style. With the advent of spring, he heads north in progressive flights as winter relinquishes its congealed grip on his daily bread. As ice, sleet, frost, and glacial rime retreat toward the North Pole, woodcock follow, grinning in seasonal triumph, and then settle down, two by two, in likely sites along streams, moist woods, and swamps in the northern states and Canada to woo, mate, nest, and raise families. Thus, although migratory, they scatter over a vast area from northern Canada down to Virginia during the summertime.



• THE FLIGHT'S ON •



In the fall of the year, woodcock hunters scan expectantly weather reports from the north country, knowing full well that storms and lowering temperature will propel southward successive waves of woodcock as the premonition of starvation stirs their instinct. Flying at night, away from frost and toward warmth, they hover down at dawn to eat and rest during the day and swell the ranks of native birds available as targets for woodcock hunters. Naturally, hunters soon deplete the supply of native birds and the daily succession of flight birds is eagerly welcomed.

Dan Burke strained his eyes for the first sight of his native town. He knew his home would be awaiting his arrival, the wandering barrister seeking his fireside. Entering the door, whoops of joy greeted him as his two sons knocked him breathless by their rush, followed by his good wife who hastened to welcome him. After dinner, Gib declared:

"We'll have to get license. I'm thirteen now!"

"That's right," Burke answered soberly but with a twinkle. "We must have licenses!"

Burke called Sam Rinn, local sporting goods czar, who, although wearied by his day's work, agreed to meet them at his store that night. At the appointed hour, they came to the store and obtained the necessary licenses. Returning home, Gib immediately climbed to the second floor, exhibiting the prized license to Joe who was in bed. Burke quietly mounted the stairs and peeped into

the boys' room. Gib sort of sprawled along the edge of the bed with his arm around Joe's shoulders as they both inspected the license, the tin number and the card, pride and joy beaming from Gib's face, perhaps envy from Joe who, flashing a scattered-tooth grin, said:

"Gee whiz, Dad! Gib's a real hunter now. He's got a real license! Wish I had one!"

"Ah, lad, you'll have one soon enough. Don't you worry, my young friend."

"Just one thing I'll be asking you, Dad! Will you wake me tomorrow morning so I can see you before you go, will you, Dad?"

"You bet I will, pal," Burke assured him. "It's getting late, fellows. So, hustle to bed. Morning'll be here soon enough."

At four o'clock in the morning, the alarm clock started to chatter. Burke quickly smothered it, turning off the alarm. He slipped out of bed and into the boys' room. Shaking Gib, rubbing his head and face until he awakened, Burke cautioned him to be quiet. Silently, they slipped down to the game room in the cellar, donned hunting clothes, and grasped guns and shells, ready to go. Burke said:

"We promised to waken Joe before we left so he could see us. That we must do!"

Climbing up the stairs as carefully as possible, they turned on the light and shook Joe until he opened his eyes. In an instant,

he was wide awake. Sitting up in bed, Joe looked them over from head to foot, nodded, snuggled down in the covers, and said: "That's all I wanted. Good luck!"

Going to the kennel near the garage, Burke released Boz, the English Setter, who immediately bounded to the car door, instinctively and joyously aware of the day's activities. Through a heavy fog, they drove up town to a restaurant which, for many years, had been the rendezvous of hunters and fishermen. Complying with the ritual of the hunter's traditional breakfast, buckwheat cakes and sausage, Burke and Gib were soon on the road, restricted to a slow speed by the dense fog. Leaving the main highway at Pike's Peak, they turned to left on a rutted dirt road and finally arrived at the Deal Bridge where they parked.

"What time is it, Dad?" Gib asked.

Burke pulled out his watch: "Quarter after six, pal."

"Gee, we can not hunt until seven o'clock. That's three-quarters of an hour yet!"

"By Jove, you're right, Gib," Burke exclaimed. "I'd forgotten all about that new law. Good business, though. It'll save a lot of accidents."

"What'll we do?"

"Let's cross the bridge and walk over to the breast of the upper dam."

A series of dams, retards, and other protection for fish had been constructed on Yellow Creek which made it one of the ideal trout streams in the state. As Burke and Gib came to the bend in the stream above the dam, four ducks, suddenly affrighted, clattered upward from the surface of the water. The two hunters, startled, mouths open, regretting that duck season was not in, were treated to an additional thrill by six more ducks sliding down the bank and zooming upward out of the water.

"Boy, oh boy, what a sight! Burke ejaculated, eyes popping. "That's something seldom seen around here, in season or out of season. Those ducks wouldn't be here except for the dams. The dams wouldn't be here if Yellow Creek wasn't a trout stream. Strange to say, I had something to do with having Yellow Creek rated as a trout stream and stocked with fish."

"Prior to six years ago," Burke said, "Yellow Creek was considered polluted because of mine water containing sulphur flowing into it at Heilwood. This mistaken belief prevented the stocking of this stream. However, I noticed from time to time that Yellow Creek always had a good volume of water, even during dry spells. It seemed a pity to me that such a stream, good water, excellent pools, splendid rapids, should be wasted and not stocked with fish. Once upon a time, we reared some trout in a small dam on a tributary stream that flows into Yellow Creek about a mile down the valley from where we now are, just beyond Eddie Fyock's camp. When these trout grew to five or six inches, we would transfer them to approved trout streams. One day, Bill Pierce's son was fishing at the juncture of this tributary and Yellow Creek and caught

• THE FLIGHT'S ON •

a fifteen inch brook trout, which is some trout, believe me!"

"When I heard about it," Burke continued, "the thought immediately struck me that here was positive proof that the water in Yellow Creek would hold trout. I wrote to the Fish Commission, setting forth the undisputable evidence. In a week or so, I received a letter stating that an inspector would contact me the next Monday for the purpose of taking samples and testing the water in Yellow Creek. I met the inspector at the hotel on Monday morning and away we started. I took Lady, our old Irish Setter who died two years ago, with us. We started at Heilwood, where the mine water emptied into Yellow Creek and took samples of water, here and there, down the stream for about ten miles, until we came to the Dead Waters. When we drove back to town that night, the back seat of the car was chuck full of bottles containing samples of water. In about three weeks, I received word that, although Yellow Creek was polluted at Heilwood, the aeration of the water, tumbling over rocks, made it pure enough two miles downstream, together with the influx of pure water from tributaries, to hold trout. As a consequence, thousands of trout were stocked and caught out of Yellow Creek and these fine dams have been built. Well, its about seven o'clock. Reckon we might as well start."

Retracing their steps to the car, they loaded their guns and followed a faint trail toward the brush and undergrowth lining the banks of the stream. They hadn't gone thirty yards when Boz snapped into a point at the edge of the brush.

"Point!" yelled Burke. "To your right, Gib, and a bit ahead! Step in and flush him!"

Holding his 410 at the ready, Gib walked in slowly behind Boz. Suddenly, like a flash, a woodcock whistled upward and straight away. Both Gib and Burke fired. The bird veered to the left, gaining speed with each wing beat. Burke led it about three feet and pulled the trigger for his left barrel. Gib shot at the same instant. The woodcock collapsed, falling to the ground.

Burke and Gib looked at each other, amazed, astounded, thrilled. Never in their born days had they had such quick and satisfactory action. First woodcock up and down, right under the gun. In the meantime, Boz had followed the flight of the bird, marked it down, and retrieved it to the two hunters. Burke motioned the dog toward Gib who took the bird from the dog's mouth, held it in his left hand, and stuck out his right to Burke. The two hunters shook hands, congratulating each other on bagging the first bird of the season, a most auspicious omen.

Their zest for hunting raised to a fever pitch by the sudden event, they reloaded and plunged into the undergrowth. They kept about ten yards apart, proceeding in the same general direction. The weeds and brush were so thick that it was impossible to see the dog at a distance more than five yards. Whenever they could not hear the dog crashing and working about, they surmised that he was on point, which was generally correct. Then ensued a strenuous game of blind man's buff, battling their way slowly

through the undergrowth, brush, and weeds, seeking the dog, for thus is the usual course of events in woodcocking, making it on a par with grouse hunting as an arduous sport.

Frequently, birds would flush when the hunters were unable to fire a shot due to guns trapped by branches. All shots were quick, snap shots. Without the services of a good woodcock dog, many birds knocked down would be lost in the weeds and brush. However, Boz was the top woodcock dog in the neighborhood. He cat-footed slowly and cautiously in and about the brush, crouching low as he approached his quarry, tensely pulling himself along inch by inch, finally making the majority of his points frozen rigid, flat on the ground. There he would stay, firm as a rock, motionless as a statue, until his master came or the bird flushed. After birds had flushed, been shot, and crashed down, Boz possessed uncanny ability to locate and retrieve them.

During the next several hours, the hunters threshed about, seldom seeing each other, popping away at woodcock, and perspiring freely from the strenuous exertion. Gib eventually called:

"Hey, Dad, aren't you hungry?"

"Sure am, pal. Do you want to eat?"

"What do you say we do?"

"Okay", Burke replied, "Let's work up to the breast of the dam. That's a good place to sit down and eat."

"How do I get there?" Gib called.

"You go straight ahead and you'll hit a cleared field. Then, you can cut across that

field to the left and hit the breast without battling through this underbrush. I'll go up along the creek bank and see if I get another woodcock or two."

Burke hadn't gone far when he heard considerable muttering and grumbling from Gib's direction.

"What's the trouble, Gib?"

"This dog-gone brush's getting me down," Gib growled, red in the face and panting. "All I get done is charge ahead a few feet, then back up and ram again."

"Turn more to the left," Burke called, laughing to himself, "And you'll soon be in the clear."

They joined each other at the dam's breast, devoured a lunch of bacon sandwiches with ravenous appetite, and tossed scraps to Boz in response to his pleading eyes. They had bagged seven woodcock, one short of the limit of four apiece. After lolling around the dam awhile, Gib suggested:

"We only need another woodcock to make our limit but don't you think maybe we've had enough? I'm sort of tired, this being the first day and all. We've sure had a swell time, haven't we?"

Burke nodded with satisfaction: "Sure been real sport, pal. We'll have more of them."

Climbing wearily into their car, the hunters and dog closed a memorable day of happy recollection afield by slowly making their way homeward through a lazy October afternoon.





In shady, cool places, protected from predators, the ill birds often will recover from botulism. Artificial inducement of water or chemicals has been known to aid recovery.

GREAT strides may be—and are being made in conserving and restoring our wild birds and animals. No matter how effective the work of the many agencies engaged in preserving and restoring wildlife, there is an ever-present threat of disease. The entire work of those who have rehabilitated wildlife on our refuges, years of effort on the part of game management experts—all might be wiped out almost overnight by a severe epidemic of disease. Standing guard against such a contingency is a section in the United States Biological Survey. Dr. J. E. Shillinger, in charge of the Section of Disease Control of the Biological Survey, can tell you all about the work being done to prevent disease from wiping out the country's wildlife.

"Disease is prevalent among wild animals and birds—and it is destructive to wildlife," he will tell you.

"There is a widespread misconception that creatures living in the wild are free from disease because of their close communion with nature and because they are not beset by the artificial conditions with which man has surrounded himself. The truth is that for almost every disease known to mankind, a similar wildlife ailment is known. Why, wild animals even have toothaches—and apparently very severe toothaches. Decay sets in and becomes so severe in certain species that sections of the mandible or jaw bone will often rot entirely away. Undoubtedly the animal suffers while this decay is going

on. He is just like a human in this respect, but we humans have one advantage. We can go to a dentist and have our teeth fixed. The animal cannot.

"Tuberculosis, sylvatic plague, tick fever, botulism, and many other forms of disease also attack animals. Of them all, botulism probably is the most destructive to wildlife at the present time."

Botulism, which is sometimes known as duck disease or limberneck, we learn affects any and all waterfowl and shore birds that take food from shallow water. It causes paralysis of certain groups of muscles, often resulting in horrible death for the afflicted birds. Botulism is caused by toxins or poisons formed by an organism that lives in the absence of free oxygen, scientifically known as anaerobic bacteria. This bacterium must have an alkaline environment. It cannot breed when there is an acid condition. In an alkaline environment when there is no free oxygen, the bacteria create the poison or toxin which, when consumed by the birds, causes botulism.

A somewhat similar disease is sometimes encountered in man, to whom it is known as ptomaine poisoning. If certain types of alkaline products are sealed in tight containers, such as cans, without completely killing off the anaerobic bacteria by sterilization, the toxins created often have very serious effects. This is not a very common danger to man today because of the great care exercised



A cure — but not a preventative — is to pick up the sick birds that often line the shore by the thousands, and take them to havens of safety and comfort, hoping for recovery.

ANIMAL

By C. M. Palmer, Jr.

in the canning of foodstuffs. In marshes decayed matter accumulates under the surface of an alkaline lake or pond and creates an ideal breeding place for the anaerobic bacteria, which in turn creates the dangerous toxins. Birds, digging down into the mud for food consume sufficient quantities of the toxin to induce paralysis, or even death. Afflicted with the disease, their heads droop—hence the name limberneck applied colloquially to botulism—and they become more or less completely helpless, depending upon the amount of toxin they have consumed.

Botulism reaps a terrible toll each year. Eight to ten thousand ducks dead from the disease have been picked up in a two mile stretch of shore along one river. On the Bear River marshes of Utah, it has been estimated that annual losses ran from 30,000 to 100,000 or even more in former years when the malady was particularly severe. It may safely be said that the loss of birds from botulism amounts to hundreds of thousands each year.

Two Methods of Control

Two methods of possible control of botulism have been developed. First we can control water levels. We have learned that birds don't get botulism in deep water. Often by raising the water level just a few inches the toxins are diluted to the extent that they are practically harmless. Sometimes, through the cooperation of local sportsmen's organizations, marshes suitable for waterfowl can be drained during the late summer months, which is the bad season for botulism, and reflooded during cold weather when the danger period has passed.

Dr. Don R. Coburn, now stationed at the Patuxent Research Refuge in Maryland, has recently shown that certain types of vegetation have a neutralizing effect on the toxins which cause botulism. Although it is too early to be certain yet, it is possible that the growth of these types of vegetation may profitably be encouraged in localities where botulism is rampant.

The actual treatment or curing of sick birds will never give complete control of the disease. However, when possible, we are doing all in our power to treat diseased birds to help check the terrible losses. This is done by securing the cooperation of state conservation departments, local sportsmen, boy scouts, and others interested in picking up sick birds in affected areas. These sick ducks would undoubtedly otherwise be doomed to perish, baked to death in a blistering sun, or in some cases drowned because they could not hold their heads out of water.

Once picked up, these ducks are put in shaded places, protected from predators, and many recover. They cannot eat, because they are paralyzed, but giving water through

DISEASES

Acting Secretary, The American
Wildlife Institute

a stomach tube often aids recovery. Certain products, such as formalin, when added to the water appears to neutralize the toxins in the digestive tracts. However, the inroads of botulism can never be successfully checked by curing the sick birds. We must, through more research, develop satisfactory ways and means of preventing the disease from attacking. For this purpose the Biological Survey has a special laboratory located in the Bear River Refuge in Utah, at which much worthwhile research is being done. Also much available work on the factors entering into the botulism problem is being done at the Cooperative Wildlife Research Unit of The American Wildlife Institute at Logan, Utah.

Some of the other diseases affecting wildlife have a direct bearing on mankind. This is one of the factors that makes the work of those seeking to control diseases in wildlife so important. For instance encephalomyelitis, commonly known as sleeping sickness, affects horses and is also known to have been communicated to humans, with dire results. The disease has been found in pheasants and is experimentally known to be infectious to a rather wide group of animal life. There is a possibility that recognized epizootics in the equine family find reservoirs of infection in wildlife. In other words, it is possible that the disease is being kept alive in certain wild animals all the time, then is communicated to domestic equines by mosquitoes or other biting insects during the times of the year that they become very plentiful. Since the disease has been known to attack man, this makes its study in wildlife of great importance.

Sylvatic Plague

Then, too, we have what is known as sylvatic plague in animals. Sylvatic plague is neither more nor less than the bubonic plague, which once wiped out large populations in cities of Europe, Asia, and other countries before the discovery of America. As almost everyone knows, the disease known as bubonic plague when it attacks man and as sylvatic plague in animals, is carried by a certain type of flea which infects rodents. The disease came into this country on rats from foreign ships on the West coast. It spread to squirrels and other rodent forms of wildlife and has now been discovered as far east as Dillon, Montana. This is important because it was once thought that should the disease be transmitted over the high altitudes of the Great Divide, it would spread rapidly among the many gophers, prairie dogs, and other rodent forms of the middle west and might possibly become epidemic among humans.

There seems no danger of this sylvatic plague attacking the people of North America as bubonic plague, but this instance is cited



Dr. Shillinger shown at work in the laboratory where he and his fellow scientists have solved many problems of wildlife diseases.

to show the great need for constant vigil to reduce and control disease in wildlife.

Of course, almost everyone is familiar with the communication by ticks to humans of the dreaded spotted fever disease. There is very little danger of humans getting this disease if the common sense rules laid out by local and federal health authorities are observed, but ticks are an important source of disease spread to cattle—and to wildlife.

Tick Fever

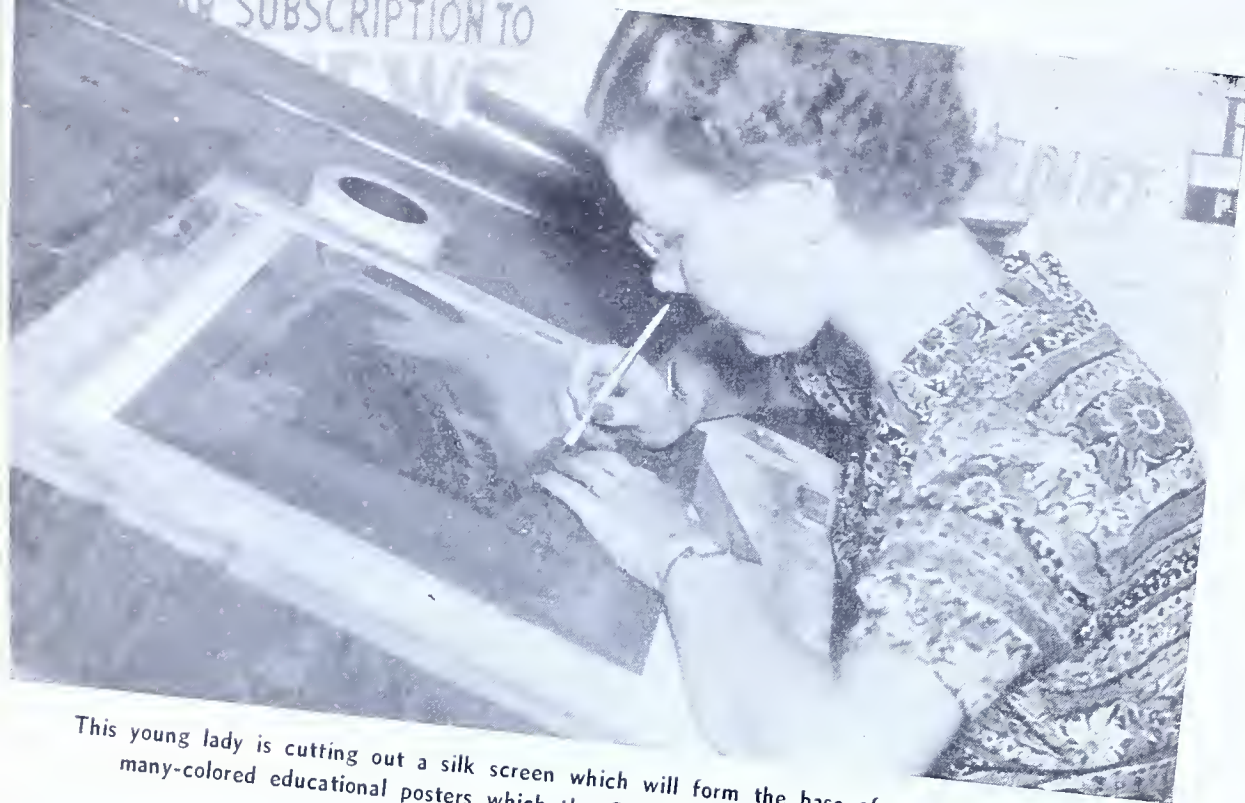
The Texas fever tick, which did great damage to cattle, has been practically eliminated. The reason this particular tick could be destroyed with comparative ease is too long to tell now. A tropical variety of tick, discovered in the southern part of Florida, is more difficult to subdue. To eliminate this species, and keep it from being communicated to domestic stock, it may be necessary to

kill off the deer in the affected territory, as was done to eliminate hoof and mouth disease in the Stanislaus National Forest area of California. As in the case of the Stanislaus National Forest, the deer can then be re-introduced and their numbers raised to the present figure after the ticks have been eliminated.

Both wild animals held in captivity and those raised on breeding farms suffer from disease—and to a greater extent than those in the wild. More closely concentrated, they can communicate diseases with greater ease. It is also true that wild animals have not built up a racial resistance to diseases of contamination and pollution. In their native environment they have not developed a tolerance to barnyard conditions such as our domestic poultry and farm stock possess. Hence when confined in pens on game farms and fur farms, infections frequently take a heavy toll.



Birds suffering from botulism or "duck sickness," become paralyzed, often are unable to hold up their heads — hence the name "limberneck" sometimes applied to the disease.



This young lady is cutting out a silk screen which will form the base of one of the many-colored educational posters which the Commission distributes annually.



Running one of the color screens. The man at the left hands the operator the card. She in turn places it beneath the screen and applies the roller which impresses the paint through the screen onto the card, as shown below.

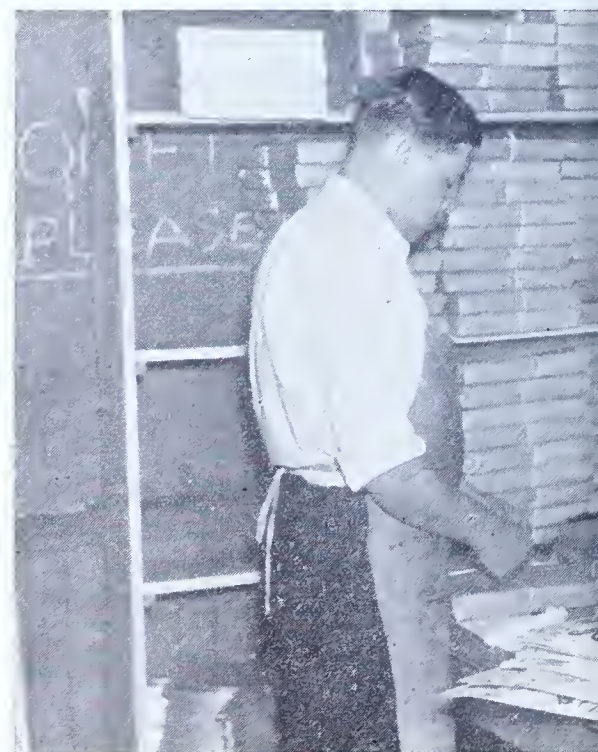


THE WPA IN C



Numerous educational

Thousands upon thousands of posters are being distributed by WPA for the purpose of urging game and songbird protection, planting of game food, etc., as well as in some phase of wildlife conservation. Posters and models of various ways, in country cross roads and other states have since started to educate their citizens more conservatively.



Wrapping colored posters for shipping

CONSERVATION



have been made.

four and five colored posters on, prevention of forest fires, as many exhibit models showing have been prepared and mission during the past two placed in schools, along highways, and other places. Many similar visual programs to make ended.



to Field Officers for distribution.



These men are making models showing how to use the Flushing Bar. They are widely distributed in cross-roads stores and other public places in rural sections together with descriptive literature.



Sample of model about to be fitted into permanent case. Some are electrically lighted. The literature is pasted on top of the lid. Below: Model of hunter crossing fence improperly with gun.



"**W**HERE'S Bill this evening?" Jones, the banker, asked. "He'd be a good man to put on the committee to collect..."

"Oh, Bill went to the mountain. He's a gun nut, you know," the pink-and-forty Mrs. Bill excused her Old Man, comfortably.

"Eh? One of those serious sportsmen!" Jones laughed it off, in a nastily superior way. Nobody had ever seen Jones with woods dirt under his fingernails, or without his white cuffs.

"Well," Mrs. Bill declared vigorously, "Bill remarked today as he oiled that fancy gun with the light-colored stock and put new strings in his old woods shoes—sez Bill: 'Guess I'll put in a few more licks against dry rot and hunting accidents.'"

"How's that?" Jones looked puzzled.

"You wouldn't know, anyhow," she told him, scornfully.

* * *

There are few accidents in hunting, compared with really dangerous activities such as baseball and farming and housekeeping. Whenever you find yourself jittery over your chances of injury in ordinary occupations and sports, it's a good idea to join the seven hundred thousand who escape in comparative safety each year to Pennsylvania woods with guns.

The record is not at all bad for a ten million dollar per year activity in a single state.

Careful bookkeeping on all details of hunting accidents shows that something like one in twenty thousand licensed hunters is killed; one in two thousand injured. (These figures do not include heart failures, divorces and cases of prickly heat on necks unaccustomed to wool shirts. Such wayside casualties are extras.)

One of the amazing features of hunting accidents is that upwards of forty percent of them, in some years, are self-inflicted. When we're shot at all, we do it two times in each five with our own guns.

On top of that, about two in each five accidental shootings are done on open ground, on nice clear days. Alibis of fog, swirling snow, lacy branches or poor visibility in general seldom apply. And generally about three times in each four it's the small game guy, or at least the scatter-gun snap-shotist, who is guilty; leaving the other one accident in four charged to rifle carriers.

All of which facts, when analyzed, reveal that the real causes of our few accidents, behind the reasons given, are: Lack of Shooting Skill, Absent Mindedness, and Gun Ignorance.

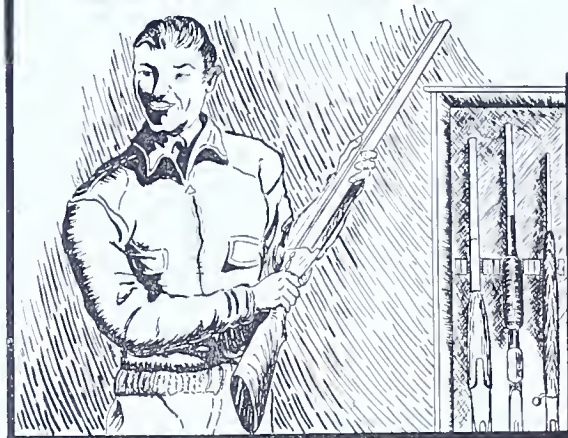
Any old-timer with a long record of safe shooting will testify that a slack habit of mind toward guns, and toward the outdoors, is at the bottom of troubles in hunting.

When about this time of the summer you see some fellows, of an evening at home, throwing their guns to their faces and working the actions; and on Sunday afternoons casually slipping away to the hills or flats, it's not just hunting fever that's got 'em. They know what's good for themselves, and are quite deliberately taking steps about it.

They are overhauling their equipment—guns, nerves, perceptions and muscles. Making hundred-percenters of themselves.

"Bill" gets a set of dummy cartridges for each of his rifles. I've seen him sit in the

GUIN TALK



Dry Rot and Hunting Accidents

*This is pretty tough on the City Fellow,
but let's say we're talking about
his neighbor.*

By R. C. MATTERN

grass, and on his living room couch, and run them through the rifle fifty times; filling the magazine, then working the action, squeezing the trigger, clicking the striker or hammer on each.

After a while his fingers close on the lever or bolt handle just right, find the trigger just so; and five dummies are handled through the action in five seconds, all as smooth as grease—without hurry. At times he adds two seconds, and puts the safety lever on and off between "shots."

He gets so good at handling the action before long that he can drop the ejects gently into his lap on his left hand, instead of kicking them five feet away. That is an evidence of real skill; and a help indoors, especially in keeping Mrs. Bill sweetened on the proposition.

The Army makes dummy cartridges in 30-40 Krag and 30-1906 Springfield sizes. They indent cannelures around the cases, also paint them with red and green bands, to distinguish them positively from live ammunition.

Bill makes his own dummies from fired cases. Sometimes he fills each with a hickory plug, all the way down, the ends sticking out and shaped like bullets. But he prefers better-balanced ones, filled with coal or sand, with an inch of brass or copper rod as "bullets," ends triangle-pointed. He always makes sure the dummies do not look or feel like real cartridges.

Bill tames his shotgun actions and accustoms his hands to them in similar practice with dummy ammunition.

He is particular about trigger pulls. The pulls must break sharp and clean, like an icicle; not with lingering creep like a damp hemlock twig. He uses and likes a brisk

single pull, but prefers the double or military take-up pull. The weight of the pull doesn't matter so much, he says, just so it isn't less than two or three pounds.

It cost him several spoiled sear pieces and triggers before he learned you can't start grinding or filing the first notch or corner in a gun action that you happen to see. Some guns come from the factory with good pulls; but plenty of them do not; and bad pulls cause misses and hurried extra shorts. Some trigger designs are easily fixed. Other designs just can't be finely adjusted, and these he doesn't buy, or if hooked with them, sells them to the once-a-year-guy, who thinks a trigger is something to pull and not to squeeze.

On a window pane of Bill's living room are three dark spots the size of flies, that catch your eye by their shapes. You walk over. They are little pictures of a deer, a turkey and a rabbit, perfect down to the ears, cut out and pasted on the glass.

"They cost me a pair of silk stockings every thirty days, to prevent washing them off," Bill admits sourly, but with a twinkle at Mrs. Bill's brazen grin.

The last time we were there, from an inconspicuous cabinet by the door he tilted an oil-shined gun, and swung it to his eye. It was all done so smoothly we were not prepared for the "click" when the sights passed the silhouetted buck.

"Keeps you familiar artificially with the look of the sights **on game**," Bill remarked. "Most sports let themselves in for learning it all over again the natural way in one tough lesson about every three years."

We can't do better here than to give Bill's unusual and pronounced views on shooting technique, with their wider application to hunting accidents, and to life itself.

"If you want to be a regular guy, in this hunting thing," he elucidates if you gain his confidence, "you first line up **your own eye** with the sights of your gun. You do that by dry aiming. Swing up the rifle, or the shotgun, to your face. Do you find the sights pretty near in line, without trying about? If they're not, pad the old stock against your cheek bones, or get a new stock that will **put** your eye in line. It's an individual fit.

"Understand? To hell with the target, at first!"

"Then here's the low-down on **effective** woods shooting. You don't **hold**. You **swing**.

"You let off your shot on the swing, always. On standin' targets, come up with the sights from the ground, or come from right or left if you prefer. On movin' objects like running rabbits and those big turkeys and deer, start behind and swing to catch up. Tighten up on the trigger as you do it.

"You get the picture now... Gun smoothly moving to alignment with your eye, cheek firm or stock, then that swing toward the target. When the sights touch it, your trigger finger just tightens automatically for the last ounce needed—and your gun says 'Whang' almost without your thought."

As Bill gets to this angle of his subject, you understand from the look in his eye and the line of his jaw why such as he never have accidents. He knows exactly what he is doing with his gun, every second.

And he adds: "Go in summer and fall to see what the woods look like. If you can get your lamps on a few deer and turkeys

(Continued on Page 25)

AT this time of the year many hunters are thinking about buying a gun dog and are looking 'em over before making a final selection. Unless you "know" dogs in every sense of that word, and it certainly covers a lot of territory, it is best to have a friend who has that uncanny ability to "pick 'em" do it for you, or purchase from a breeder whom you have found by careful investigation is entirely reliable.

The person who "knows" dogs is a rare individual indeed and my hat is off to the man who can invariably pick the winner every time. I confess that I am unable to do it and bat a very high average, altho on several occasions I have done so—one time picking the best dog in a kennel of 55 brothers and sisters that looked mighty good all the way through.

Each and every person has his own idea of what the dog he wants **should** look like but it is best to throw some of these ideas overboard at times for best results.

The most important thing is to select a dog with a good head. That I believe should be your number one guide, for a dog without brains, or plenty of skull room for brains to develop, isn't worth taking home at any price.

I like a dog with a skull that is large and well developed; a face that is wide rather than narrow, and a muzzle that is square and long rather than shallow or "snipy." Whether choosing a pointer, setter, spaniel, retriever or hound, be it puppy or older dog, my preference is for the dog with the big nose and wide nostrils.

While I can't agree with some authorities that a light eyed dog is no good, the preference is for a dark eyed specimen, the depth of the color depending usually on the depth of color of the dog's coat.

Without going into scientific or minute detail, the dog with the broad head will have more brains, and you can take a chance whether they are good or bad. The good brain absorbs and understands the lessons and you can improve the bad one if there is plenty of it there.

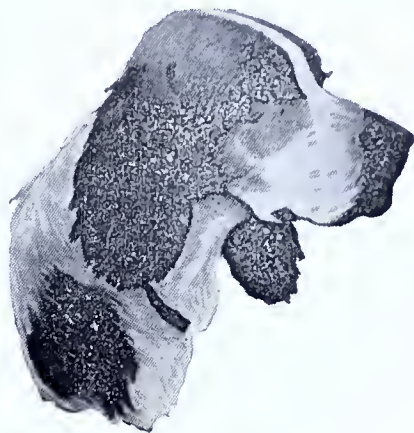
It is a very well-known fact that the sense of smell varies very much in dogs, or in other words some have a better nose than others, depending on the olfactory nerves.

Now I'm not saying that a dog with a fine head running to snipeyness won't be a good dog, for I have seen such specimens that were mighty fine, but, the better dogs in general are developed from the dogs with the better heads.

But head isn't everything. You have to have it if you want to develop brains and game sense, but this has to be backed up with legs that are straight, pasterns that are strong and feet that are firm, uniform and well padded. You must have "heart" and lungs that can stand it for hour after hour going. Now many "small" dogs have this and can outshine a larger dog, for they are developed in proportion. Your dog too, should have a good frame, with loin, hind-quarters, shoulders and chest well developed.

Don't let the color or markings of a dog make you decide against him. I find a lot of sportsmen who make this mistake. Some of the most miserable "looking" dogs in that respect that I have seen were "wonders" in the field, and that, after all, is what you want.

YOUR DOG



Selecting Your Gun Dog

EDITED BY
"DAVE" FISHER

In looking for a new dog, don't ever try to select one to replace "Old Bob" a dog you may have owned or known of in past years. It is virtually impossible to find a dog that would have the same characteristics.

A Few Training Thoughts

In the training of your dog, I can't emphasize too strongly that you should know your individual dog and not take anything for granted. Without being very careful in this respect you are often likely to blame the dog for making an error when he doesn't deserve it and you are just as likely to fail to properly punish him when he does deserve it.

If at anytime you are not sure, give the dog the benefit of the doubt. They learn mighty easily if given the chance and punishment is seldom necessary. How fast they learn depends on the individual dog AND the trainer.

J. A. Sanchez Antunano of Yucatan, Mexico, trained a dog in 90 minutes—only 1½ hours to complete the yard training, and that included retrieving. In his recently published book, "Practical Education of the Bird Dog" he writes:

"Whoopee, learned to heel, sit down, drop; in the first ten minutes. He learned retrieving very quickly. During this training he was not intimidated by the so-called "force-system" and he bears as much affection for me as I do for him."

The secret of the JASA method is in knowing how to apply it. Both the human as well as dog temperament play an important part.

To illustrate the point, I purchased an Irish setter, from a Western person, who had him trained for wide going on horseback. After he became acquainted he was taken afield and cut loose at 5 o'clock in the afternoon. I saw him the next evening at 5 o'clock about four miles away, having been informed by a friend of his whereabouts. This happened several times.

Now I could have used one of several methods to cure him of this; including cut-

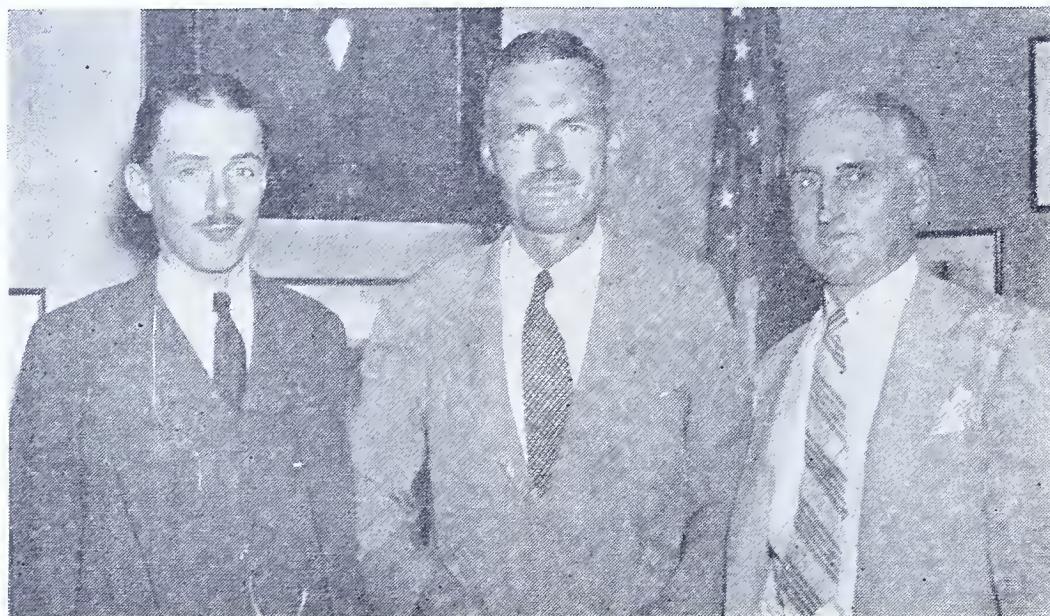
ting him off and using the whip. However, I resorted to no force method. Instead I merely started to talk to him when in the field. Fired several false shots from my gun (which brought him in to retrieve) and when he got there I merely talked a bit rough to him about being lax in his duty and letting that bird get away. I worked. When I pick up my gun now, he is the most perfect gentleman in the field you ever saw. Has developed proper range for type of cover we are in and keeps his eye on me like a good fellow. I seldom talk to him now while working, but chat away with him while resting or during lunch period as he lies by me looking as sober as a Virginia judge as if I were crazy.

In training your dog, don't expect too much of him until he (or she) is two years old. I find that most persons purchasing a young dog from 6 months to a year old expect that dog to give old dog performance and this he cannot do for he has not had the opportunity to gain proper experience.

For conservations sake, I believe that every sporting dog should be taught to retrieve. There is no prettier sight than to see your dog bringing the game to hand and you won't let those cripples get away to die.

Dog Questions

- Q. Is there anything the individual person can do to aid a dog that has been poisoned?
A. First, call your nearest veterinarian. While waiting, if you do not know the specific poison, do the same as you would for a person—cause the dog to vomit. A tablespoonful of salt placed at root of dogs tongue and washed down with as much warm water as possible, or, try a teaspoon of mustard, repeating in 10 minutes.
- Q. What is the best way to remove ticks from a dog's skin?
A. A drop of gasoline or chloroform on each tick will act as an anasthesia and loosen the ticks hold so you can pull it off easily and entirely without breaking off the head. Use tweezers, not your fingers. If ticks head breaks off, paint spot with iodine.
- Q. An English setter owner who keeps the dog in the house says the dog was completely house broken until about two months ago. Now he seems unable to hold his water. What is the trouble?
A. The trouble is probably an organic disturbance and you should consult your veterinarian immediately.
- Q. How can a person who lives along the highway stop their dog from chasing bicycles and automobiles?
A. You can have a friend spray the dog in the face with a water pistol loaded with ammonia water, or, you can tie a light rope to the collar and then tie a small rolling pin or block of wood to the end. The block bangs against legs when the dog chases car or bicycle and deters and discourages him.



Left to Right: John C. Youngman, Pres., Pa. Federation of Sportsmen's Clubs; Col. Nicholas Biddle, Pres., and Seth Gordon, Executive Director of the Game Commission at joint meeting of both groups to consider 1939 seasons and bag limits.

Lest we forget, the following is a list of the 43 who have served, or are now serving, as Members of the Pennsylvania Game Commission, and the periods of their tenure of office:

Name	Residence	Service
William M. Kennedy*	Allegheny	1896-1905
Charles Heebner*	Philadelphia	1896-1899
Irving A. Sterns*	Wilkes-Barre	1896-1901
James H. Warden*	Harrisburg	1896-1910
E. B. Vestfall*	Williamsport	1896-1902
Coleman K. Sober*	Lewisburg	1896-1914
Dr. C. B. Penrose*	Philadelphia	1899-1922
J. O. H. Denny*	Ligonier	1901-1905
William H. Myers*	Williamsport	1902-1909
Frank G. Harris*	Clearfield	1905-1908
John M. Phillips	Pittsburgh	1905-1923
Arthur Chapman*	Doylestown	1908-1916
Lenning S. Harvey	Wilkes-Barre	1910-1915
W. B. McCaleb	Philadelphia	1911-1924
John S. Speer*	St. Marys	1914-1918—1919-1925
George D. Gideon	Philadelphia	1915-1919
Thomas Martindale*	Philadelphia	3/23-9/17/16
Dr. H. J. Donaldson*	Williamsport	1916-1929
Wilson McGrew	Pittsfield	1918-1919
William S. Ellis*	Bryn-Mawr	1920-1924
Col. Henry W. Coulter*	Greensburg	1922-1924
Adolph Muller	Norristown	1924-1935
Jared M. B. Reis	New Castle	1924-1931
Francis H. Coffin	Scranton	1924-1931
Franklin G. McIntosh	Franklin	1924-1931
Richard E. Reitz	Brookville	1926-1935
Harry C. Stackpole	St. Marys	1927-1931
Ross L. Lcfler	McKeesport	1927-1931—1935-present
J. Aug Beck	Williamsport	1929-1931
Dr. W. H. Moore	Philadelphia	1931-1935
Ralph L. Eckenstein	Williamsport	1932-1935
Ernest E. Harwood	Hazleton	1/6-3/19/32
Dr. Samuel H. Williams	Pittsburgh	1932-1935
Howard Stewart	Clearfield	1932-1935
A. Hunter Willis	Erie	1932-1935
J. Q. Creveling	Wilkes-Barre	1932-1937
Nicholas Biddle	Jenkintown	1935-present
Samuel Castner	Williamsport	1935-present
A. W. Lee, Jr.	Clearfield	1935-present
Robert Lamberton	Franklin	1935-present
Frank B. Foster	Phoenixville	1935-present
John H. Price	Scranton	1937-present
Wm. G. Fluke	Saxton	1935-present

*Deceased.

LEGAL NOTICE

Bounty Removed From Great Horned Owl

At its meeting on May 31, 1939, the Pennsylvania Game Commission passed the following resolution removing the bounty on Great Horned Owls:

"RESOLVED, That the Commission, acting under the powers and authority vested in it by the provisions of Article XI, Section 1101, of the Act of Assembly approved June 3, 1937, P.L. 1225, hereby removes the Great Horned Owl from the bounty list and discontinues the payment of said bounty on all Great Horned Owls killed after May 31, 1939; and

"BE IT RESOLVED FURTHER, That the Director publish, in accordance with the provisions of Section 1102 of Article XI of the act aforesaid, a notice of this action in the Pennsylvania Game News, also bring said action to the attention of public through other available channels, said Director being hereby authorized and directed to certify this action as and for the act of the Pennsylvania Game Commission."

I certify the above to be a true and correct copy of the resolution removing the bounty on the Great Horned Owl as adopted by the Pennsylvania Game Commission at a meeting held May 31, 1939.

SETH GORDON, Executive Director,
Pennsylvania Game Commission.

The next Taxidermy Examination will be held at the offices of the Commission September 13 by the Taxidermy Board, the personnel of which is: Reinhold L. Fricke, Preparator, Carnegie Museum, Pittsburgh; Harold T. Green, Curator, Academy of Natural Sciences, Philadelphia; and M. J. Kelly, Curator, Everhart Museum, Scranton.

Persons desiring to compete in the examination must come to Harrisburg at their own expense. Application to participate must be filed fifteen days prior to the date of the examination. The fee is \$12.50, which will be applied against the \$25.00 fee, provided the applicant passes. The fees paid by those not passing will be deposited in the Game Fund to help defray the expenses incurred in holding the examination. Applications may be secured from the office of the Game Commission at Harrisburg, upon request.

Official reports of the Ohio Conservation Division show that furs bought in Ohio and shipped out of the State during last season amounted to a grand total of \$770,252.35.

CURRENT TOPICS

. . . . Notes From The Field

FORESTRY ASSOCIATION MEETS AT COOK FOREST

The Pennsylvania Forestry Association will hold its Annual Summer Meeting in beautiful Cook Forest on September 22 and 23, devoting the two days to a discussion of wildlife and forest management. Among the prominent persons who are expected to address the meeting are Honorable G. Albert Stewart, Secretary of the Department of Forests and Waters; John A. Youngman, President of the Federation of Sportsmen's Clubs; Richard Gerstell, Chief of the Division of Research of the Pennsylvania Game Commission; Reverend J. Darlington Culp, President of the Pennsylvania Division of thezaak Walton League; Dr. Logan Bennett of the Biological Survey; Francis R. Cope, Jr., Vice-President of The Pennsylvania Forestry Association; and Kenneth Reid, former member of the Fish Commission. It is also hoped that Governor Arthur H. James will be present.

The meeting will start with lunch at Cook Forest Inn at 12 o'clock, EST, on Friday, at which Wilbur K. Thomas, President of the Association, will give a short address of welcome followed by one or two other talks. At 3.30 a tour of Cook Forest will be made in charge of Park Superintendent Alexander.

The main addresses of the day will follow dinner which will also be held at Cook Forest Inn at 7 o'clock. On Saturday morning there will be another meeting at the Inn and in the afternoon for those who wish, tours will be planned to various points of interest, to game lands, in the Allegheny National Forest and State Park areas.

All persons interested in game, general wildlife management, forestry, conservation or other phases of the out-of-doors are invited to attend. Reservations for staying at the Inn or cabins nearby should be made directly with the management of Cook Forest Inn, Cooksburg, Pennsylvania.

During June 59 Cooperative Farm-Game Project Agreements were secured for a total of 5,622 acres in a number of counties. The aggregate area now covered in the Cooperative Farm-Game Program is 99,774 acres. The four new projects are located as follows: Mercer County, Wolf Creek and Worth Townships; York County, Lower Chanceford Township; York County, Conewago and Newberry Townships; and Berks County, Heidelberg and Marion Townships.

More than 16,000 seedling trees of various types which furnish food for game have been planted by National Youth Administration workers on state game refuge lands in Cambria County under projects which have been operating for nearly a year and a half.

Many other improvements also have been made on the state game lands under the NYA projects, according to a report compiled by James Z. McClune, Cambria County NYA supervisor.

Up to April 19 a total of \$6,714.53 had been spent in making these improvements. The NYA had expended \$5,168.38, to which the sponsor of the project, added \$1,546.15.

"WPA workers on State Game Lands No. 117 recently killed a large blacksnake, which had eaten 6 grouse eggs about ready to hatch. Blacksnakes are very plentiful in this section and three or four are killed every day."—Game Protector Carl Stainbrook, Washington County.

"Recently while coming over Tussey Mountain from Pine Grove Mills toward McAlevys Fort, Vernon J. Dietz, of Huntingdon, encountered a wild turkey hen leading her flock of 10 young across the highway. The way was blocked for some time by obliging motorists who stopped to watch the proceedings. The hen stood in the middle of the road and clucked her offspring across one at a time. As each small bird passed the mother she gave it a nudge toward safety with her wing. After all were safely over she followed and the motorists proceeded on their way."—Wm. J. Davis, Division Game Supervisor, Huntingdon.

"Since keeping tab on the wildlife that is being killed on the highways, an interesting fact has been brought to light that only had casual observance heretofore—that is, the number of birds being killed on the highways. About 50% of them are English sparrows, but it is surprising the number of goldfinches, field sparrows, song sparrows, indigo buntings, meadowlarks, killdeer, and other species of protected birds that are being killed. Turtles and toads also are suffering heavily in this section, especially along hard surfaced roads that parallel streams."—John B. Ross, Division Game Supervisor, Williamsport.

"While traveling from Manheim to Elizabethtown on June 27 Game Protector Haverstick and I observed a red-winged blackbird

heckling a hen pheasant in a green field. Every few seconds the blackbird would swoop down and peck at the pheasant which became bewildered and did not know what to do. She would go first in one direction, then in another. This went on for about ten minutes until finally the hen decided that was no place for her so she ran into some standing weeds at the edge of the field."—Frank A. Myers, Division Game Protector, Reading.

"While studying food habits of wild waterfowl at Pymatuning the past week we noticed that the small, spotted water turtles had been depositing their eggs in the sand and loamy soil along the banks of the lake and the sloughs. In every instance something had dug up the eggs and had eaten them, leaving only the shells. Upon closer examination we found that skunks had been having a feast on the turtle eggs."—Game Protector Samuel K. Weigel, Wayne County.

Hunters and fishermen from Kentucky recently organized the League of Kentucky Sportsmen. The League, having an organization of eighty-three clubs with a total membership of over 11,000, is cooperating to the fullest extent with the Division of Game and Fish in its program of conservation and propagation of wildlife.

A pure white half grown groundhog, a rarity among its tribe, was killed in July at Chickies Creek, near Columbia, by Peter Meister, Columbia hunter. Local hunters were of the opinion that it was an albino until an examination made by Deputy Game Protector J. A. Culp, of Columbia, revealed that its eyes were not pink.



Quite a few orphaned "bunnies" were hand reared by Game Protector's wives this summer.

CURRENT TOPICS



Young Flicker atop nesting stub.

Land Management Program

During the fiscal year ending May 31st the Division of Game Land Management accomplished a great deal. Complete figures are not available on some of the work, but the items listed below will give a fairly complete picture.

Arrangements were made with a seed dealer, after bids were received, to make up 5 tons of the Pennsylvania Game Food Plot Mixture, as reported sometime ago. Two other seed houses also made up a total of 2½ tons. All of the material was used, which means that approximately 7½ tons of the Mixture was planted this last spring. Several other States have shown considerable interest in the mixture.

1,250,000 evergreen seedlings were planted to provide better cover for wildlife and for timber production. These were all received from the Department of Forests and Waters.

880,000 game food producing trees, shrubs and vines were planted. More than 1/3 of these were received from the Soil Conservation Service without cost, and the remain-

der were raised in the Game Commission's nursery and in the State Forest Nursery at Hont Alto.

76,000 game food producing trees, shrubs and vines were transferred locally by field men from places where they were plentiful to the Game Lands.

190,000 cuttings of game food producing plants were planted.

A total of 621 game food plants with an area of 538 acres were planted on State Game Lands to various kinds of grains to increase the supply of game food. In addition to this, over 206 acres of State Game Lands are being farmed on a share basis by neighboring farmers. The Game Commission's share will be used for food for wildlife.

Approximately 18,000 apple trees were pruned in order to increase fruiting capacity.

Wood and timber was sold on an area covering approximately 1,800 acres, and the material removed during the year netted \$4,848.61.

Approximately 5,700 acres of release cuttings were made in order to encourage the production of game food plants and increase their yearly fruiting.

Arrangements have finally been made for the raising of game food trees, shrubs and vines at the State Forest Nursery near Clearfield. This nursery is being increased in size and the Commission at its meeting in October, 1936, approved the raising of game food producing plants with the understanding that the Department of Forests and Waters would furnish the land, supervision etc., and the Game Commission would furnish what seed they need, and the labor necessary in taking care of the beds.

The area available for the Commission at this nursery is about 6 acres. It will be possible to raise from 1 to 5 million seedlings if needed. The area is a very good one, and the seedlings can be produced here much cheaper for the Commission than they could if it had to operate its own nursery.

At the Pymatuning Waterfowl Refuge the following aquatics were planted during the year, practically all of which were transferred from Conneaut Lake to the Refuge:

- 106,500 wild celery plants
- 22,700 sage pond weed plants
- 48,000 floating pond weed plants
- 400 Northern Maid plans
- 200 pickerel weed plants
- 254 bu. coon tail plants
- 134 bu. muskgrass seed spores
- 6 bu. duck weed
- 3 bu. duck meal
- 100 lb. wild millet seed
- 80 lb. burreed seed
- 75 lb. smartweed seed

During the year there were also established 22 new Primary Refuges, all of which were relatively small in size. There were also 19 additional Auxiliary Game Refuges established.

Reports have been made on the Farm Game Projects from time to time, so these are not included in this report.

One additional Dog Training Preserve was established in Lycoming County.

In accordance with action of the Commission sometime ago, 7 of the larger old Game Refuges were reduced in size, and examinations made of a few others which will be taken care of later.

A great deal of the work has been carried on by the WPA and other relief organizations. In addition to the items mentioned there has also been a great many other accomplishments which need not be mentioned in detail here.

They include building of feeding shelters, retreats, fire lanes, road repairs, boundary line marking, walling up of springs, maintenance of buildings at Refuge Headquarters, building artificial arbors, worm fences along which game food plants are placed to increase carrying capacity of areas with large clearings, etc.

Game prosecutions during June numbered 78, and penalties collected and deposited amounted to \$1,402.00.

CURRENT TOPICS

NOTES FROM THE FIELD

"I visited the new heron rookery the other day and found that both the black-crowned night herons and the little green herons were using the same rookery. There are about thirty nests in the rookery located on a small island in the refuge. Some nests still contained young birds while others were vacant, but the young birds were perched near the nests on limbs of trees. I do not believe they can fly yet."—Game Protector Raymond McKles, Crawford County.

Deputy Protector George H. Burdick, assigned for temporary duty at State Game Lands No. 14, Hicks Run, Cameron County, picked up an exhausted homing pigeon that dropped near his headquarters on or about June 20. He carefully nurtured and cared for the bird until it recovered, then attached a note with his address and turned it loose. Later he received the following letter:

"Dear Sir:

"The homing pigeon you found 6/19/39 arrived home 6/21/39. It was in a 600 mile race from Knoxville, Tenn., liberated there last Saturday. This bird was hatched in 1932 and has flown in the following races:

1932—70-100-200 mile
1933—70-150-300-500 mile
1937—70-150-300-500 mile
1938—150-300-500 mile
1939—50-75-150-300-400-600 mile

I have now mated it to my best flying hen.

"I am a member of a club in Scranton, Pa., and we fly old bird races in the spring and in the later summer fly young birds hatched this year. I am enclosing a self-addressed envelope and would be pleased if you would tell me under what conditions you found the pigeon. I want to thank you very much for your kindness to my bird and if you spent any money for feed just let me know how much."—Floyd B. Hand, Clarks Summit, Pa.

"At my window the other day I saw a Blue Jay take a cocoon of the cherry tent moth, tear it open and eat the contents. Later the bird picked another such cocoon from a corner of the screen door, flew to the willow bush, about four feet from my eyes, held the cocoon underneath its right foot—perhaps it happened so—and picked vigorously until it was open. I did not know the Blue Jay was a cocoon eating bird; very few birds are. Some men employed by me saw a Starling take a young barn swallow from its nest. The swallows attacked the starling and drove it away. One young swallow was killed."—F. W. Barclay, Line Lexington, Pa.

While feeding pheasants in a field adjoining the open top pens at the Jordan State Game Farm recently, Game Protector Robert



Photo courtesy Harrisburg Evening News
This young Robin swallowed about ten inches of heavy cord string (perhaps it thought it was a worm) then flew to a tree limb. In some manner the loose end caught around the limb and the bird was suspended until it died.

Parlaman observed a pair of red-tailed hawks soaring over the field very low in the air. Suddenly one bird dove into the field for a bird. By the time Mr. Parlaman reached the scene it had badly mussed up one of the cock birds. Two shots from his service revolver frightened the hawk away. None of the pheasants have been killed so far, however, despite the fact that the red-tails have been nesting near the farm and are often seen perched high on trees about the area. This is the first time they were caught in the act of molesting any of the birds.

When Game Protector W. W. Ohlmann, Potter County, was loading a deer on his automobile which had been struck by another car, a party of Indiana tourists stopped and asked if they could take a picture of it. They said they had travelled the highways of Indiana, Michigan, Wisconsin, and a lot of other States but had never seen a live deer in the wild. Protector Ohlmann, along with one of his deputies, Mr. H. Quick, asked them if they would like to see a live

deer in the wild and they fairly leaped at the chance. So the officers took them up Thompson Hollow, along Lyman Run, to the Lewis Road and showed them 22 deer in broad daylight. As a grand finale just before the party came out to Route #6 on the Lewis Road a doe and her fawn stood in the middle of the road and challenged their right of way not thirty feet in front of the car. The party had good cameras, and they should have secured excellent pictures. They were all Indianapolis school teachers, two women and one man.

The Kofa and Sabeza Prieta game ranges in Arizona, recently established by Executive order of President Roosevelt, have added more than a million and a half acres to the Federal areas devoted to wildlife conservation, says the U. S. Biological Survey. Set apart primarily as refuges for mountain sheep, or bighorns, the two ranges will also afford protection and security to other species of wildlife. Among these are antelope, peccaries, mule deer, and Gambel quail.



A REAL SET-UP

Through an ideal arrangement between local sportsmen and the Muncy Water Supply Company, a game program described by several officials of the Pennsylvania Game Commission as "a perfect set up" has been established on the watershed consisting of 700 acres in the Glade Run section of Muncy Mills. This fine land is not only a haven for animals and birds but is also a "paradise" for the local cooperating sportsmen.

The informal organization of these sportsmen has no title. Kenneth R. Hill is general chairman. Ten other directors serve on an advisory board. These include: James Johnson, R. W. Feigles, Jack Anderson, John Bruch, Charles Sprout, Twain Brewer, Frank Rupert, Harry Merrill, Robert Hoffman and George Crawford. Game Protectors Jesse C. Newcomer and Robert Latimer also serve on this advisory board.

The members co-operating and guests held a picnic-gathering June 4 on the water company land. It was a great success with almost 200 persons present.

For several years, the land has been thoroughly posted against trespassing. Sportsmen co-operating in the program were issued permits. Each sportsman applying for a permit was asked for a small contribution. All money received was used for restocking rabbits and pheasants and the extensive feeding program. All of the work and service was donated by members.

Fine crops of feed for birds to eat are growing on the property and look splendid. Included in the Spring planting are the Pennsylvania food plot mixture, recommended by the game commission; sweet corn and buckwheat. Permanent shelters for food have been constructed at various places on the grounds. Hawk traps have been placed on the grounds. This year an experiment of releasing young tame rabbits is being tried.

The group plans even a more extensive feeding program this Fall and Winter. It is planned that food will be placed long before the animals and birds are "snowed in and can't come and get it."

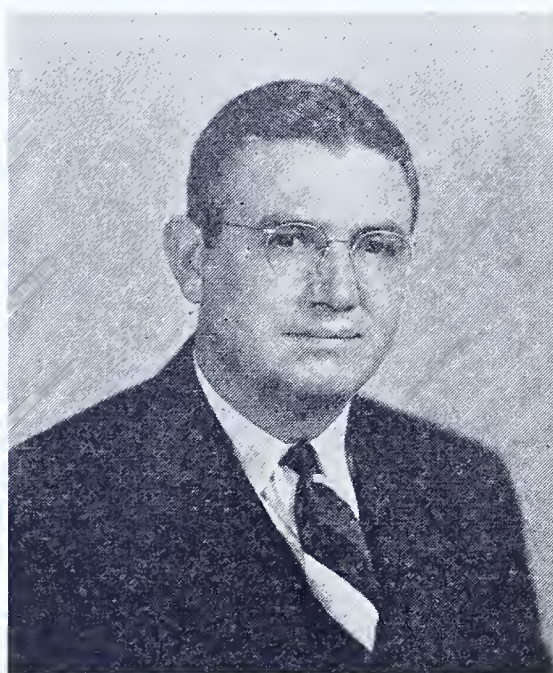
The elaborate feeding program not only preserves animals and birds stocked here, but also attracts them from surrounding country.

For several years, the water company has generously offered local sportsmen permission the use of the watershed land for hunting. In 1933 the first stocking was done. A free-will offering was taken among sportsmen who hunted on this land and with the money procured 72 rabbits from Missouri were purchased and stocked. Much additional stocking has been done since that time, all with money donated by the sportsmen co-operating.

Several years ago it was found necessary to post the land and to issue a formal written permit to the sportsmen who wished to co-operate in the movement. This was necessitated by misuse of privileges on the part of several out-of-town hunters.

FEDERAL AID

Over \$71,000 was recently made available to Pennsylvania by the Federal Government under its federal aid to conservation program. About \$53,000 of this amount will be used by the Game Commission for land purchase projects, and approximately \$18,000 for carrying on certain research projects. Such projects will include: Fur studies, Deer Breeding experiments, etc.



DR. MAURICE BANKER

Dr. Maurice L. Banker, Huntingdon, Pa., was elected Chairman of the South Central district, Pennsylvania Federation of Sportsmen, at a meeting held at the Penn-Alto Hotel in Altoona. Dr. Banker succeeds Merrill Merritts of Altoona who vacated the position after he was elected Vice-President of the State Federation.

The new Chairman has been a very active member in the Huntingdon County Game, Fish and Forestry Association. For the past two years he has been Chairman of the Membership Committee and by his direction and efforts has increased the membership of the club to nearly the eight hundred mark. He was also Chairman of the Huntingdon County Federation and greatly assisted Mr. Merritts, the past Chairman, in organizing the county.

Mr. Dewey Miller, of Bedford, was elected Vice-Chairman and Dr. R. D. Anthony of State College was elected Secretary-Treasurer.

TRIBUTE FOR SERVICE

Twenty-seven years of continuous and faithful service as secretary of a sportsmen's organization is a long time. Yet Harry N. White, Towanda, Pa., has served in that

capacity for the Towanda Gun Club since 1913 in a manner that has met with the approval of the members and the general public. His reputation and character as a sportsman, friend and servant for others has been an outstanding feature of his general civil activities and interest.

His resignation was recently made due to other duties which demanded his time. However, his interests in the welfare of the club and its 200 members will not be forgotten and he will continue to give his moral support to an organization of which he is proud.

This club—believed to be the oldest gun club in the United States—was organized January 29, 1880 with seven members. Very shortly after, the first trap shoot was held in which five of the seven members participated in shooting glass balls thrown from a Bogardus Glass Ball Trap. The net profit of this shoot was exactly 12 cents. Since that early shoot a plot of ground has been purchased and equipped with modern trap shooting equipment. Many shoots have been held at this spot, the most recent being held May 7, 1939, at which time more than 300 rounds of ammunition were used.

Reorganization took place in 1888 with 5 members paying \$1000 per year. March 30, 1908 a charter was granted and more members were taken in. During the same year a cabin was built along Schrader Creek near Cabin Run. This served as a fishing and hunting lodge for many years until the Game Commission purchased the land. Purchase was made during April 1911 of a large frame house, overlooking the North Branch of the Susquehanna River at Homets Ferry. The property, having been completely remodeled and equipped with all modern conveniences serves as a recreational center for members and their friends.

During the past few years there has been an average of more than 1000 people each year who have visited the club house and enjoyed the fishing in the river.

It is of considerable interest to know that there are four original members still enrolled with the club who are never in arrears with their dues or miss a meeting unless sickness prevented their presence. Frank Montanye, L. M. Osborne, Otto Mayer and William F. Dietrich, all of Towanda, still enjoy being at the meetings although cannot participate in the more strenuous activities. William F. Dietrich, 87 years of age and still going strong, has been the treasurer of the club since its organization.

A secretary who keeps things moving for 27 years and interest at a high pitch certainly has accomplished a job that is worthy of the approval of every sportsman of Pennsylvania who is interested in conservation. Harry White has given of his time and unselfish service in a manner that has won him many friends and his success for the future is the wish of his many admirers throughout the state.

WITH THE CLUBS

The Coraopolis District Sportsmen's Association is proud of the fact that many days and nights of hard work has given it the distinction of having the first farm-game project located in Allegheny County. The project, consisting of approximately 1500 acres, is composed of some of the finest rabbit and bird territory in the State. The numerous long, deep valleys are heavily wooded and will have clear cold spring runs. An abundance of native nut trees, as well as wild grapes, berries of all kinds, fruits and wild seed-bearing shrubs and plants make it an ideal hunting and game breeding area.

At the present time there are eight refuges in the project. Through the able assistance of the local Boy Scouts, assisted by the Game Committee, a large number of feeding shelters have been built in these refuges. The most favorable type of feeder seems to be the automatic hopper type, located under a raised shelter and large enough to keep the snow from blowing under. Squirrels, pheasants, quail and rabbits were seen feeding at this type of shelter. Scratch feed, ear corn and alfalfa were used with much success.

The association's first attempt to raise ring-neck pheasants last year was very successful. A total of 127 twelve-weeks old birds were raised from 200 day-old chicks. These birds were distributed over the project and very satisfactory reports were received from the farmers concerning them.

A new type state approved pheasant pen was built, and every effort will be made to insure future success in pheasant propagation. The interest of the farmers in the project is very great. They have asked for grain to plant for game food, and made many other offers to help the program along.—Game Committee, by Calvin F. White, Chairman.

The Edgely Rod & Gun Club will hold its Fifth Annual Outing at Lane's Park, Edgely, Pa., along the Delaware River on Sunday, September 10. The following events will start at 12 noon: Trap Shoot, Splash Board Shoot, .22 Rifle Match, Bait Casting Contest; also events for the women and children. Refreshments free. In case of rain the outing will be held the following Sunday.

The Erie County Field Trial Association will hold its Fall Trial on Saturday and Sunday, September 30 and October 1, on State Game Lands #109. Drawings will be held Wednesday, September 27, at the Erie Tennis and Country Club. The trial will consist of an Open Derby, All Age, and an Erie County Shooting Dog Stake. Money prizes will be awarded for the Open Stakes and trophies for the Shooting Dog Stakes. Horses will be available for the gallery in case they wish to follow the braces, and luncheon will be served each day on the grounds by the club's caterer.

On Saturday night, September 30, a banquet will be held at the Erie Tennis and Country Club for bird dog enthusiasts. Judges will include two well-known lovers of bird dogs, Dr. Leslie J. Atkins, of Olean, N. Y., and Mr. J. Horace Lytle, of Dayton, Ohio.

All members of the Erie Field Trial Association are also members of the Erie County Sportsmen's League. For further information, contact J. F. Downing, II, Secretary-Treasurer, Quinn Hotel, Erie, Pennsylvania.

The Warren County Field Trial Club, Warren, will hold its annual fall trial of liberated pheasants Saturday and Sunday, September 23 and 24. For further information contact C. H. Springer, Secretary, Warren, Pa.

A one-day field trial for bird dogs will be run on August 27 at Bradford, by the Bradford Field Trial Club. There will be three stakes, as follows:

1. Open Puppy: Pointers and setters not over one year old, \$2.00 to enter and start. Trophies to first, second, third and fourth places.
2. Open Derby: Pointer and setters whelped on and after January 1, 1938, \$3.00 to enter and start. Cash awards of \$15.00, \$10.00, \$5.00, \$2.50 for first, second, third and fourth places.
3. Open Shooting: Pointers and setters; regardless of previous winnings, \$4.00 to enter and start. Cash awards of \$20.00, \$15.00, \$10.00, \$5.00 for first, second, third and fourth places.

The drawing for the Open Puppy Stake will be on the grounds on Sunday morning, August 27, at 7:30 A. M. While one stake is being run the drawing for the next will take place.

The advertised Judges are C. A. Cook, of Bradford, and Dr. D. B. Jenkins, of Owego, N. Y.

Lunches and refreshments will be served on the grounds at all hours.

For Information or Entry Blanks, write K. S. Lorch, Secretary, 106 Main Street, Bradford, Pa.

The Second Annual Shoot of the Western Clinton Sportsmen's Association will be held at the Elks Country Club on Youngwomans Creek, Labor Day, September 4th.

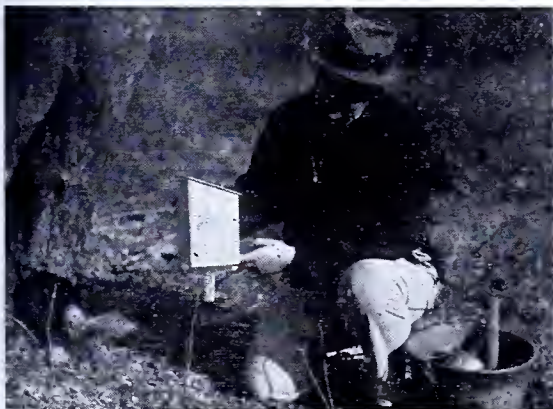
GUN TALK

(Continued from Page 18)

and rabbits and grouse now, you'll feel more like a regular person in hunting season. Not just a city so-and-so. And you'll not be stumbling around and shooting yourself in the foot as soon as you're off the paved road."

Well, that's Bill for us. Safest of shooters, and a good, solid bet on most anything, as the banker knows, although he hates to admit it. This Jones person pretends he is a sportsman—drives out to camp for a feed once or twice a year. He has a carbine and a double twelve gauge, which he keeps in brown leather cases and seldom sees. He shoots ten shots in five years—and boasts of his indifference.

He is not willing to do the things Bill does. As a result, he's a hunting misfit, not concentrated on his subject; when in the woods, given to promiscuous shooting. He doesn't even know what he's talking about on this subject. He's a walking accident, headed for the spot marked "X".



Clever feeder designed and used by Royersford Sportsmen's Asso. Small mesh wire container at bottom is filled with whole corn and attached to heavy piece of wire or light steel rod which extends up several inches through bottom of box where it is cotter-pinned to keep it from falling out. Then box is filled. As the "bait" is agitated by the game it enables the grain in the box to filter through somewhat on the order of a hopper type feeder.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

SETTLEMENT OF GAME VIOLATIONS IN FIELD; KILLING BIG GAME ANIMALS FOR PROTECTION

Q. (1) Is it lawful for any Penna. Game Law enforcement officer to collect a fine from any violator while in the field, and without a magistrate's hearing?

(2) A bear or any other big game animal out of its native habitat, such as, in town or surrounding locality, which is suspected of doing damage to crops, farm animals, or persons, may be hunted, captured or shot by whom, when not during open season for that animal?

R.M.M.—Kennett Square, Pa.

A. (1) There is a provision in the Game Law under which any person charged with violating its provisions may sign an acknowledgment of the offense committed, without going before a Justice of the Peace or other magistrate, and pay to a Game Protector or Deputy Game Protector the fine provided in the Act. That person receives a printed receipt bearing the seal of the Commission and the signature of the Executive Director, which is evidence of full satisfaction for the offense committed.

(2) Any person has the right to protect himself against possible attack by a big game animal in Pennsylvania, whether that person is in possession of a hunter's license or not. The Pennsylvania Game Law contains a provision for the killing of deer or bear at any time they are committing material damage to farm crops, fruit orchards, etc., but such killing must be done by the persons actually residing upon the land on which the damage occurs. Under those conditions, they may be killed at any time of the year, regardless of seasons, but proper report must be made to the nearest Game Protector within twelve (12) hours after the killing.

* * *

REVOLVER FOR HUNTING BY PERSON UNDER AGE 18

Q. I wish to get a permit to carry a revolver while hunting and fishing, but I am only 16 years old. Please inform me how I can get a permit.

G.D.K.—Dickson, Pa.

A. The Firearms Act of 1931, under which revolvers may be registered for hunting and fishing, for a fee of 15c, says: "No person shall deliver a firearm (as defined in the Act) to any person under the age of eighteen." We assume from this that a person must be eighteen years of age to legally register a revolver for hunting purposes and there is no way whereby you could obtain a permit until you reach that age.

KILLING WATER DOGS

Q. Is it permissible to kill a water dog if the dog kills and eats a snake? Is the water dog of any value, or do they harm the fish?

Miss E.M.R.—Harrisburg, Pa.

A. We are advised by Mr. Alex Sweigart of the Fish Commission that "the water dog or salamander is accorded no protection under the Fish Law and may be killed at any time. We regard this amphibian as definitely detrimental to good fishing in the inland waters. It has been found that much of its food comprises the crayfish which ranks as perhaps the outstanding forage for our game fish in the inland waters." We are further informed that while the water dog is not protected, it may not be taken from the water through the use of a spear, net or other device of an unlawful character for fishing. The water dog may, however, be shot with a gun.

* * *

HUNTING ON SPECIAL PRESERVE WITH BOW AND ARROW

Q. I get your Pennsylvania Game News and enjoy mostly the sportsmen's questions. I am told that I may hunt on a game preserve with a bow and arrow. Please inform me in your next issue if this is true.

E.L.—Nazareth, Pa.

A. Evidently you have been misinformed, as you may not hunt on a game preserve or game refuge with a bow and arrow. There are two State Archery Hunting Preserves in Pennsylvania, one in Sullivan County and the other in Forest, wherein the privilege of hunting exclusively with bow and arrow can be obtained at a cost of \$2.00. This fee is in addition to the cost of a hunter's license which must first be presented before a permit to hunt on an Archery Preserve can be obtained. Detailed information on hunting in the Archery Preserves can be secured from the Game Commission on request.

* * *

SMALL BORE RIFLES FOR BIG GAME HUNTING

Q. Does the new law about .22 and .25 calibre guns for big game hunting apply to the .22 High Power Savage, .22 Hornet, etc., that are heavy enough for deer?

R.R.B.—Milton, Pa.

A. All that the new law does concerning the use of firearms for big game hunting is to outlaw the use of a .22 or .25 calibre RIMFIRE cartridge for such hunting. If the .22 high-power shells to which you refer are center-fire cartridges, they may be used for big game hunting this year.

TRAPPING GROUNDHOGS (WOODCHUCKS)

Q. Under the new groundhog law, can groundhogs be trapped legally, with the consent of the landowner?

J.H.R.—Lancaster, Pa.

A. No. The new law makes no provision for trapping groundhogs by persons who do not reside upon cultivated lands. As we read the law, it may be possible for landowners or occupants of farms, as well as members of their families or hired help, to trap groundhogs at any time if their dens are located in cultivated fields on which such persons reside. There is no provision in the law, however, to give a landowner the right to permit individuals not residing on his land to trap these animals.

Persons who are not residents of farm must either take groundhogs by shooting during the open season, July 1 to September 30, Sundays excepted, between the hours of 6:00 A. M. and 7:30 P. M., Standard Time, or dig them out of dens in cultivated fields by first obtaining specific permission from the owner or occupant of the farm. Persons obtaining this consent are required to immediately replace the earth, after the removal of the animals, and level off the area dug out. Penalty for failure to observe these regulations is \$10.00.

* * *

CARRYING REVOLVER FOR HUNTING AND FISHING

Q. What animals is it lawful to hunt with a revolver? Is it all right to use the same permit to hunt and fish? Do you have to carry some other weapon while you are carrying a revolver registered with your county treasurer?

M.W.—Colver, Pa.

A. You may hunt any wild birds or wild animals in season in Pennsylvania with an ordinary revolver, but you must not use an automatic pistol for that purpose. We see no objection to carrying a revolver for both hunting and fishing purposes during the period for which it has been registered with your county treasurer. For instance, if a revolver is registered under your hunter's license, you may use it for hunting, fishing or training dogs from September 1st to the following August 31st, whereas, if it is registered under your fishing license, our understanding of the Firearms Act is that you may use the revolver for the three purposes above stated from January 1st to December 31st of the year for which the fishing license was issued. It is not necessary to carry another firearm in addition to a revolver registered for hunting or fishing.

Fox Hunting Notes

By W. Newbold Ely, Jr.

THE hound show of the Penn-Marydel Foxhounds, Inc., will be held as usual at the perfect setting of Mr. and Mrs. Jackson's Kirkwood Kennels, probably America's most sumptuous hound apartments. It is under a huge tent set up for the occasion in one of the vast grass yards the minor M. F. H. acts as host to the directors, exhibitors, and guests; and here around the bedside foregather fox hunters old and young from that astounding half circle north of Philadelphia where there are fourteen continuous recognized hunts comprising an unsurpassed fox hunting center. This strong breed, often blue ticked, hound Mr. Jackson originally extolled in the P-M record as a species of the American Foxhound which has been found to be most serviceable and satisfactory for club and pack hunting, and which has been bred and hunted for generations through the southeastern sections of Pennsylvania, Maryland, and Delaware. Any, indeed most, other strains of the American Foxhound run back for their basic stock to this hound, which should suffice to establish it, had it not continuously provided character of sport which is meritorious."

These great voiced hounds, many of which have almost exact counterparts in the Gascon-Saintongeais hounds of France, will be judged by Dan Sands, M.F.H. of Middleburg, the third successive year. In fact the M directors' confidence in Mr. Sands was so great that they unanimously voted that they would leave it to him to choose and report his own co-judge.

The date has been moved up to September the day following Will duPont's Foxcatcher Races, and a Sunday was chosen to enable more people to get there, as the previous weekday afternoon was found hard on the sons of toil whether behind a plow or glass topped desk. Another innovation this year will be the classes for listed hounds, other words hounds of not straight Penn-Marydel breeding.

The second curtain raiser for the Bryn Mawr Show in October will be the Virginia Foxhound Club show on Mrs. Marion duPont's historic "Montpelier" where the Virginia hounds will compete on September 12. The judges have not been announced, but Mr. Walter Jeffords, celebrated M.F.H. of the Jack and Tans at Andrews Bridge, Penna., will not be available as that merry month will find him fighting the black flies in Canada.

The Wild Turkey in Swedish Forests

(Continued from Page 3)

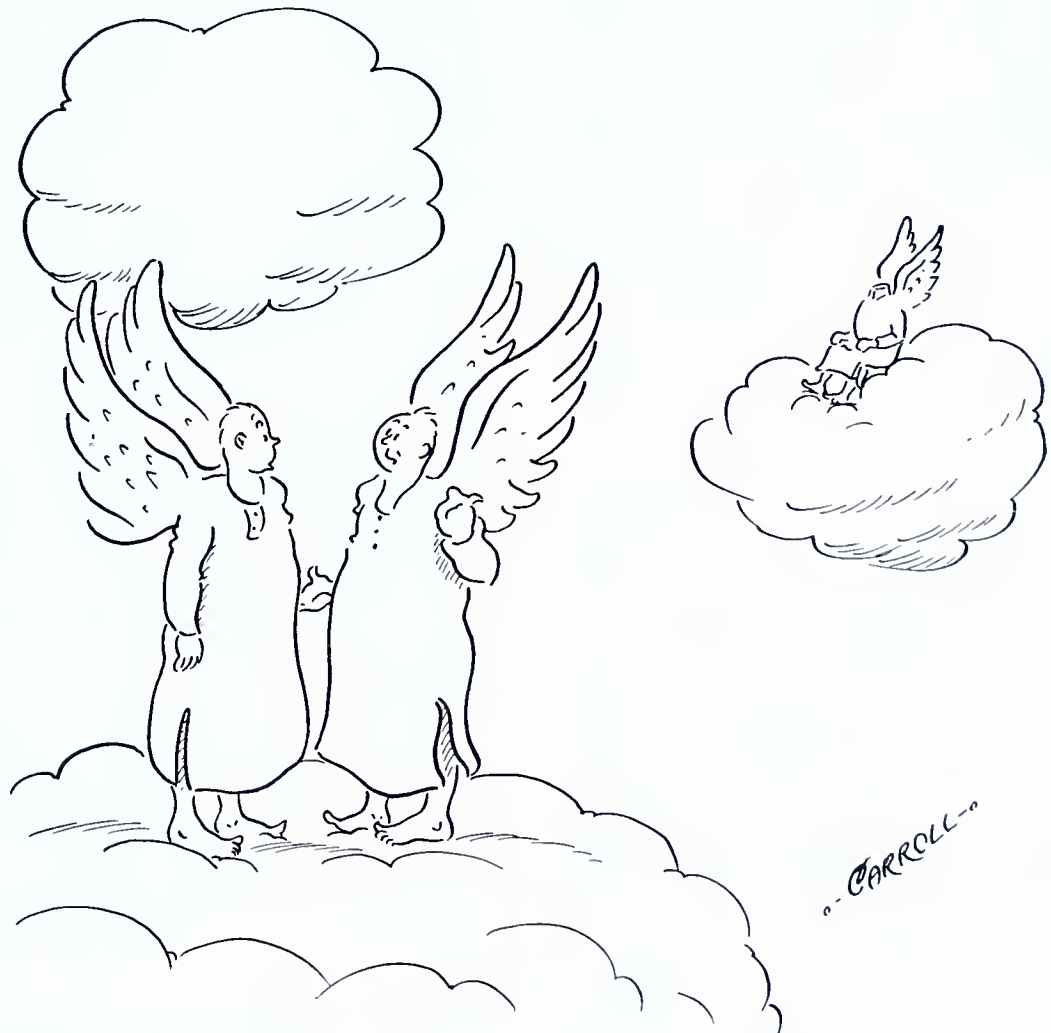
Country. Former experiments in Germany and Austria have turned out quite favorably, it seems. It is possible that Sweden might present conditions which are quite good. It would be possible to extend the attempt that has been made at Storeberg by setting aside a special district in the woods with a condition of peace for the birds. Major Herbert Jacobson, alert and interested in these things, as so many other things, is said to have some opposition in his pocket, which we probably will turn to.

THE MAIL BAG

"In the May issue of the Game News I had some notes including the figures from the University of Minnesota showing that the diet of a fox contained less than two per cent of bird. I have just read Mr. Wootten's rebuttal in which he says that their investigation took place from November to May and had the figures included the spring, the percentages would have been different. Cornell, the University of Virginia, and the University of Missouri have all run similar tests, and the ones covering all twelve months of the year have apparently shown no change in the percentages. Mr. Wootten claims that the fox makes a complete change of diet in the spring and summer. I can truthfully say that although I have two litters right now on a farm which is a little over a hundred acres, and have New Hampshire Reds running loose, I have up to the present time not lost a single chicken; and the farmers in our country have practically no complaints because of the foxes running loose. By this I do not for a moment mean that foxes do not take chickens and small birds, but given enough mice and rabbits, they will make this their main diet with, of course, always their favorite wild berries. We also have the statistics of the best bird shooting areas of the south showing that they are the very spots where the fox hound people hold field trials on account of the prevalence of foxes.

"Also anyone who follows the fox's tracks long enough may sooner or later find where he has eaten small game, but what is lost sight of is the fact that this small game is usually sick or dead.

"All of this was most excellently brought out in an article by that well known sportsman and naturalist, Richard Pough of the National Association of Audubon Societies. I take the liberty of referring you to this article in the August issue of the Pennsylvania Game News."—Wm. Newbold Ely, Jr.



"One day he looked in the barrel of a gun, and then." " "

NEW LAWS EXPLAINED

IN order that hunters may become familiar with the amendments to the Game Law as approved by Governor James on June 24, we plan to run the most important of these changes, Section by Section, in the next two or three issues of Game News.

Any hunter who now possesses a Game Law pamphlet may wish to insert the new amendments therein until the new pamphlet is available. Following is the first series of these changes.

EXCEPT IN SECTION HEADINGS BOLD-FACE WORDING IS NEW, REVISED OR CLARIFIED LAW. "Par." refers to paragraph and "p" to page in 1937-1938 Game Law Pamphlet.

New Groundhog Season

Section 501, p. 501: Changes the groundhog season to July 1 to September 30 inclusive.

Section 702, par. 75: Permits shooting groundhogs between 6:00 A. M. and 7:30 P. M. Eastern Standard Time, Sundays excepted.

Persons Under Sixteen

Section 316, par. (d), p. 32: To use firearms of any kind, or a bow and arrow, for the purpose of hunting any wild birds or wild animals unless, if between the ages of twelve and fourteen, accompanied by a parent or guardian, or some other member of his family twenty-one years of age, or older, or, if between the ages of fourteen and sixteen years, unless accompanied by an adult at least twenty-one years of age, unless such hunting is done on the premises whereon such person resides;

Raccoon Trapping

Section 501, par. (b), p. 60: Raccoon Not to Be Trapped; Exceptions. Except in defense of person or property, it is unlawful for any person to take, or attempt to take, raccoons through the use of traps or deadfalls, except in such county or counties as the commission may, by proper resolution, public notice of which shall be given as hereinafter provided, declare open to trapping when in its opinion raccoons are sufficiently abundant to justify such trapping; but the provisions of this subsection shall not be construed to prevent any bona fide occupant of a farm which lies within any county not declared open to general public raccoon trapping, who is a citizen of the United States, and actually resides upon and cultivates such farm, or any immediate member of his family, or regularly hired help of such occupant, if any such person is a citizen of the United States actually residing upon and cultivating such farm, from trapping raccoons thereon, including the woodlands connected therewith as a part thereof, so long as any such person complies with the provisions of this act, or the rules and regulations adopted thereunder governing trapping methods, seasons, and bag limits, unless the commission has denied, or this act does deny, to any such person the right to hunt or trap anywhere in this Commonwealth.

Anterless Deer Permits

Section 501, par. (e), p. 61: Special Permits for Anterless Deer. If in any year the commission, by resolution, declares an open season for anterless deer, it may, in its discretion, issue special permits to hunt for or kill such deer, at a fee of one dollar, under such rules and regulations governing the issuance of such permits as it may deem necessary to limit the number of persons who may hunt for such deer in any portion of the Commonwealth, provided public notice of such action is given as hereinafter required.

When such permits are issued to restrict the number of persons who may hunt anterless deer in any designated portion or portions of the Commonwealth, any citizen of the United States residing within the Commonwealth, who is a bona fide owner or lessee of lands which lie within the area declared open to the hunting of said deer, or any member of the family or household, or regularly hired help, of such owner or lessee, if such person is a citizen of the United States actually residing upon and cultivating such lands, is hereby declared eligible to hunt without a special deer permit for such anterless deer upon said property, and, by and with the consent of the owner thereof, upon the lands immediately adjacent and connected with his own lands, other than lands owned by or under the control of the Commonwealth.

The terms "anterless deer", and "deer without visible antlers", as used in this subsection, or any other provision of the Game Law which this act amends, are hereby defined to mean a deer without an antler, sometimes called horn, the term "antler" as herein used, or in any other provision of the Game Law which this act amends, meaning the bony growth on the head of a deer regardless of its size or development.

When the commission adopts and promulgates such rules and regulations relative to special permits, it is unlawful for any person, other than a landowner or lessee or a member of his household as hereinbefore enumerated, to hunt for anterless deer without such a special anterless deer permit, or to take such deer

contrary to the rules and regulations adopted by the commission.

(d) If at any time the commission shall, by resolution, declare an open season for anterless deer throughout the Commonwealth, or in any given county, or part thereof, such open season shall be abrogated in any such county if there is filed with the commission a petition opposing such anterless deer season, signed by a number of residents of that county who held Pennsylvania resident hunting licenses the previous year equal to fifty per centum of the total number of licenses issued to residents of that county for the previous year. Said petition must be filed at least thirty days prior to the opening of the proposed anterless deer season.

Any person signing such a petition who is not a resident of the county to which such petition relates, or who did not hold a resident hunting license for the previous year, shall, upon summary conviction thereof, be sentenced to pay a fine of ten dollars, and costs of prosecution, and upon default thereof shall be imprisoned for a period of five days.

Underwater Sets Permitted

Section 603, p. 67: Illegal Methods of Taking Fur-Bearing Animals; Exceptions.—In the taking or killing of fur-bearing animals or predators, it is unlawful to set traps closer than five feet from any hole or den which may be occupied by a fur-bearing animal or predator, except that this restriction shall not apply to underwater sets, or to take muskrats and beavers except through the use of steel or live traps and deadfalls, or to use a snare, poison, explosives, chemicals, a steel trap with teeth on the jaws or with a jaw spread exceeding six and one-half inches, or to smoke out or dig out any den or house of any kind, except when occupied by a predator, or to cut den trees, or to use any trap or deadfall of any kind unless visited at least once every thirty-six hours, except when prevented by sickness or storm. Provided, however, That it shall be lawful to use snares without stringpoles for the taking of predators from the sixteenth day of December to the thirty-first day of March next following, in such counties as the commission may by proper resolution designate, notice of which shall be published as provided in section five hundred five of this act, so long as such snares are identified and visited in the same manner as required for traps and deadfalls.

All traps or deadfalls so used must be marked with a metallic plate or tag, attached to the deadfall, trap or trap chain, bearing, in plain English, the name and address of the owner, and must be taken up or sprung at the end of the season.

Nothing contained in this section shall prevent the use of baited traps in taking fur-bearing animals or predators, or the killing of any muskrat or beaver with a firearm after it has been legally trapped, or prevent persons residing upon cultivated lands from digging out dens or houses of any wild animals, excepting beavers, during the close season, in fields which are under cultivation, or from preventing any person from killing or capturing alive any fur-bearing animals, excepting beavers, as any time, in any manner, when found in the act of destroying personal property, or in the immediate pursuit thereafter, but in no case shall the pursuit be carried beyond the limits of the property upon which the damage is done.

Nothing contained in this act shall be construed to prevent the use of artificial lights such as are ordinarily carried in the hand or on the person, or lawful firearms, in the taking of raccoons, opossums, and skunks, during the open season.

The person killing or capturing any such fur-bearing animal or accidentally killing or capturing and injuring a fur-bearing animal during the close season, while legally hunting or trapping for other animals in season, shall immediately notify a game protector or the director at Harrisburg, and such animal, or the pelt thereof, shall be disposed of as may be specified by the director. Failure to notify such officer or the director, as herein provided, shall constitute prima facie evidence of the unlawful killing or capturing of fur-bearing animals.

Section 703, Par. (e), p. 76. (New paragraph): That woodchucks, commonly called groundhogs, may be dug out of their dens, or killed in any manner, at any time, by landowners or occupants of farms, or by members of their family or hired help, when such dens are located in their cultivated fields, if said persons shall be citizens of the United States; and said animals may also be dug out of dens, in cultivated fields, and killed in any manner, during the regular open woodchuck season, by any other person who is a citizen of the United States, if such person shall first have obtained specific permission from the owner or occupant of said farm, and shall immediately after the removal thereof replace the earth and level off the area dug out.

Section 806, Par. (d), p. 10: Sanatorium, Institutional, and Park Protection.

Section 820. Sanatorium, Institutional, and Park Protection.—(a) It is unlawful for any person within this Commonwealth to discharge a firearm of any description, except in defense of person or property, or at a properly constructed and designated pistol, rifle or shotgun range or gallery, upon the lands or premises, if such lands or premises are posted against hunting or shooting, belonging to or connected with, and controlled as a public or private hospital or sanatorium, or publicly-owned institutional grounds or lands connected therewith, or park or resort, set apart to the use of the public, either free or otherwise, and upon which human beings congregate in the open in quest of health,

recreation or pleasure, or upon which human beings are hospitalized, quartered, or incarcerated at public expense.

(b) The boundary of such lands or premises shall be clearly defined by appropriate posters or markers, calling attention to the fact that the land within such boundary has been set apart for the specific purpose for which it is intended, and that shooting upon said property is prohibited: Provided, That no privileges may be granted by those owning or operating such lands to any person to hunt for or shoot at either game birds or game animals upon such property, nor shall such persons in charge of said lands be eligible to hunt for or shoot at said game birds or game animals thereon.

(c) The foregoing restrictions and provisions shall not be deemed to apply to any portion of such sanatorium, institutional, or park lands which lie outside of the posted area, and upon which the public is allowed to hunt or shoot.

(d) Any person violating any of the provisions of this section shall, upon conviction, be sentenced to pay a fine of twenty-five dollars and costs of prosecution.

Section 2. Subdivision (d) of article nine of said act is hereby amended, by adding thereto, after section nine hundred and thirty-six, a new section to read as follows:

Section 937. Special Wildlife Refuge Projects.—Recognition and protection comparable to that which is now accorded to game refuges, established and maintained by the commission under the provisions of the Game Law, is hereby provided for such special wildlife refuges as may be sponsored, established, and maintained by any regular sportsmen's organization working in behalf of the public interest and the conservation of wildlife, with the written consent and approval of the owner or lessee or other person in responsible control of the land so utilized, to cooperate with the Pennsylvania Game Commission in the furtherance of its game management program.

The provisions of this act shall be applicable only to the lands adjacent to such special wildlife refuges, except safety zones around occupied buildings on the project, are open to lawful public hunting, and provide the following conditions are complied with:

(a) Minimum Acreage. No such special wildlife refuge shall contain less than two (2) acres, and in no instance shall the combined total acreage set aside as a special wildlife refuge and safety zones, the latter as provided for in section eight hundred and eight of the Game Law, exceed one acre of such restricted territory for every two acres of open hunting grounds available to public use on the same tract of land, or on a number of contiguous tracts combined as one project.

(b) Refuge Boundary Lines. The boundary line of special wildlife refuges shall be marked by a substantial fence, or a marker consisting of at least one strand of wire of not less than twelve gauge, or its equivalent if twisted wire is used, which wire shall be supported and stretched so that it shall average approximately three and one-half feet from the ground and entirely surround each special wildlife refuge so established.

Where such boundary line passes through forest or brushland or briar thickets or high weed growth, unless it comprises a road or other cleared strip of land, all brush, weeds and other growth shall be removed, no more than six weeks prior to the open fall hunting season from a strip at least five feet wide adjacent to the fence or wire marker, so persons approaching the refuge may recognize said boundary.

(c) Boundary Line Posters. In addition to the fence or marker hereinbefore specified, and the cleared strip where necessary, the boundary line of such special wildlife refuge shall be plainly and conspicuously posted prior to October first of each year, with legible notices at least ten inches by twelve inches in size, placed no more than one hundred yards apart, which shall bear the following warning:

SPECIAL WILDLIFE REFUGE HUNTING IS UNLAWFUL

This Refuge is Provided So That Wildlife May Have a Place to Escape and Breed in Safety.

Entering This Refuge for the Purpose of Hunting or Disturbing Wildlife, or Permitting Dogs to Enter, is Punishable by a Penalty of

Twenty-five Dollars (\$25.00)

The Lands Surrounding This Wildlife Refuge, Except Safety Zones, are Open to Public Hunting.

Sponsored By

(Name of Sponsoring Organization to be Printed Here)

This Refuge Established to Cooperate with the

PENNSYLVANIA GAME COMMISSION

The sponsoring organization, in addition to its name may include on such notices the location of its headquarters, and the name of the landowner, lessee or other person in responsible control of the land so used.

The commission is authorized to furnish printed posters, with or without charge, for the proper posting of such special wildlife refuges, and for safety zones, or that portion of the property open to public hunting under such regulations as it by resolution may fix.

(d) Restrictions; Exceptions. When a special wildlife refuge has been established and posted in accord-

nce with the foregoing requirements, it is unlawful or any person to hunt or trap for, pursue, take, kill, or disturb, or to attempt to hunt or trap for, pursue, take, kill, or disturb, wild birds or wild animals of any kind thereon, or to permit dogs to enter, pursue, or disturb such birds or animals thereon, except that predators and fur-bearing animals may be removed therefrom by the owner or lessee, or other person in responsible control of the land so used, or by members of his immediate household, if such persons are citizens of the United States, or by any citizen of the United States who has obtained a written permit from the sponsoring organization, with the consent of the owner or lessee or other person in responsible control; but such removal of predators and fur-bearing animals shall not be undertaken during the month of November of any year.

Entrance upon such special wildlife refuges at any time of the year shall be lawful by the owner or lessee, or other person in responsible control of land so used, or by members of his immediate household, or by his authorized representative, for customary or normal activities other than those specifically herein prohibited; and entrance shall be lawful by any other person, who may be designated by the president or secretary of the sponsoring organization, for the purpose of improving cover and food conditions, or to feed wildlife in such refuges, except during the month of November of any year.

(e) Penalties. Each person violating any of the foregoing provisions of this section shall, upon conviction, be sentenced to pay a fine of twenty-five dollars for each offense, together with costs of prosecution.

It is unlawful for any person to wilfully, negligently or maliciously cut, remove, cover up, deface, or otherwise mutilate, injure, or destroy any special wildlife refuge boundary fence, or wire or poster, placed in accordance with the provisions of this act. Each person violating any provision of this paragraph shall, upon conviction, be sentenced to pay a fine of ten dollars (\$10.00) for each offense, together with costs of prosecution.

Section 3. This act shall become effective immediately upon final enactment.

There's a big black bear in the forests around Canton who probably has a lot of respect for the automobile. Bruin waddled out of the woods onto a highway and stood defiantly in the path of E. W. Hallet's speeding automobile. Hallet was unable to stop and struck the bear head-on. Bowled over, Bruin quickly righted himself and hurried back into the woods.

SPORTSMEN GET MORE LIBERTIES

(Continued from Page 1)

imals on the continent, and the Commission will continue its policy to protect the animals as much as possible in order that no alarming reduction in their numbers ever takes place. A colorful figure in our big woods country, Bruin and his tribe, though not fewer in numbers than the wily deer, offers every bit as much sport. Sagacious and cunning, with our many refuges he should always be able to hold his own, provided hunting seasons for him are kept at reasonable lengths.

Although the future looks very encouraging for next fall, sportsmen can do much to guarantee even better hunting when the first of November rolls around. They can keep a close check on their old stamping grounds and see that no four-footed or winged predators take an excessive toll; and they can start calling on their farmer friends in an effort to win their confidence before the season opens. After all, a man's behavior in the field and while on another person's property is the basis upon which he is judged when he returns to hunt another season.

Be a gentleman and a sportsman while in the field, hunt for sport and not meat, treat the landowner and his property with respect, and above all handle your gun carefully.

OFFICIAL 1939 OPEN SEASONS AND BAG LIMITS

Open season includes both dates given, Sundays excepted for game. On November 1 no hunting of any kind before 9 A. M. With this exception, shooting hours daily are 7 A. M. to 5 P. M., except from July 1 to September 30 inclusive 6 A. M. to 7:30 P. M., E. S. T. (See separate summary for Waterfowl and Coots). Traps may not be set before 7 A. M. on the first day of the season for trapping in open counties. Raccoons may be hunted at night.

UPLAND GAME (Small game possession limit three days' bag)	BAG LIMITS		SEASONS	
	Day	Season	Open	Close
Woodchucks (Groundhogs)	4	Unlimited	July 1	Sept. 30
Ruffed Grouse	2	10	Nov. 1	Nov. 21
Quail, Bobwhite	2	15	Nov. 1	Nov. 21
Hungarian Partridges (3 Counties)*	2	6	Nov. 1	Nov. 21
Wild Turkey (See below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, Males only	2	12	Nov. 1	Nov. 30
Grackels (commonly called Blackbirds)	Unlimited		Nov. 1	Nov. 30
Rabbits, Cottontails	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black, Fox (combined kinds)	6	20	Nov. 1	Nov. 30
Squirrels, Red	Unlimited		Nov. 1	Sept. 30, 1940
Raccoons, all counties by individual or hunting party	3	12	Nov. 1	Dec. 31
Raccoons, by traps (See counties closed below)*		12	Nov. 10	Jan. 30, 1940
Bear, over one year old by individual (see below)*	1	1	Nov. 15	Nov. 18
Bear, over one year old by hunting party of five or more*	2	2		
Deer, male with two or more points to one antler, except that last two days in 4 counties only antlerless deer may be hunted*	1	1	Dec. 1	Dec. 15
Deer, as above, by hunting party of 6 or more*	6	6		

NO OPEN SEASON—Reeves Pheasants, Chukar Partridges, Doves, Varying Hares (Snowshoe Rabbits), Elk and Cub Bears.

MIGRATORY GAME—Rails (including Sora), Gallinules, Woodcock, Snipe, (Wilson or Jack), Wild Ducks and Geese, and Coots (Mudhens) Fixed by Federal Government. See summary posted in Post Offices or ask Game Commission.

FUR-BEARERS—(Traps not to be placed before 7 A. M. on opening dates).

Minks, Apossums, Skunks	Unlimited	Nov. 10	Jan. 31, 1940
Muskrats (by trapping only)	Unlimited	Dec. 1	Jan. 31, 1940
Otters (by traps only, in 4 counties)*	3	Dec. 1	Jan. 31, 1940
Beavers (by traps only, in 12 counties)*	3	Jan. 15	Jan. 31, 1940

* SPECIAL COUNTY REGULATIONS

HUNGARIAN PARTRIDGES—Hungarian Partridges may be killed only in the counties of Lycoming, Montour and Northumberland.

TURKEY—No Turkey season in Cameron, Elk, Forest, Jefferson, McKean, Potter, Sullivan and Warren Counties.

RACCOON TRAPPING—No Raccoon trapping in Berks, Bucks, Cambria, Carbon, Chester, Delaware, Lawrence, Mercer, Montgomery and Schuylkill Counties, except by certain landowners. The Raccoon season bag limit is 12 for hunting and trapping combined.

BEAR—No Bear season in Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin and Perry Counties.

† DEER—On December 14 and 15 only antlerless deer may be hunted for and killed in Forest and Warren Counties, that part of Potter County lying north of U. S. Highway 6, and that part of Jefferson County lying northwest of U. S. Highway 119, by persons who have not killed a deer or aided in killing the hunting party limit.

OTTER TRAPPING—Otter trapping only in Monroe, Pike, Susquehanna and Wayne Counties.

BEAVER TRAPPING—Beaver trapping only in Allegheny, Bradford, Clarion, Columbia, Crawford, Elk, Forest, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Schuylkill, Snyder, Susquehanna, Tioga, Union, Venango, Wayne and Warren Counties.

SNARES—Snore without springpoles may be used for taking predators only in Cameron, Clarion, Elk, Forest, McKean, Potter and Warren Counties between December 16 and March 31, 1940.

1938 Pennsylvania Resident Game-Kill Report No. 68728

I certify that the report below is a complete record of birds and animals killed by me since January 15, 1938. (File a report, whether any game was killed or not.)

Name Ed. C. Weaver Jr.
62 Plum St. Fairless Pa.
 Street or R. F. D. City

Number of separate days hunted: 10

NO.	KIND	NO.	KIND
9	Rabbits, Cottontail		Shore Birds (State Species)
	Hares, Snowshoe or Varying		Wild Geese
3	Raccoons		Wild Ducks
	Squirrels (State Species)		Blackbirds
1	Wild Turkey		Woodcock
1	Ruffed Grouse		Stray House Cats
	Ringneck Pheasants		Woodchucks (Groundhogs)
	Quail, Bobwhite		

Deer: ☐ Adult ☐ Yearling ☐ Fawn ☐ Male ☐ Female ☐ Weight lbs.

Killed in _____ County

Bear: _____ Sex _____ Weight _____ lbs.

Killed in _____ County

DETACH AND MAIL THIS REPORT BEFORE JAN. 15, 1939. PENALTY \$2.00 (1938)

Figure 1: Left, a typical Game-Kill Report. Top, the information on the report as it appears on punched tabulating card.

COUNTY		LICENSE NUMBER		GAME KILLED		WEIGHT		COUNTY		LICENSE NUMBER		GAME KILLED		WEIGHT	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99

Figure 1: Left, a typical Game-Kill Report. Top, the information on the report as it appears on punched tabulating card.

WHAT BECOMES OF YOUR GAME-KILL REPORT

(Continued from Page 5)

work at the rate of one hundred and fifty cards per minute is shown in Figure 3.

(4) The fourth operation is that of taking the punched cards, and to say they are mixed is putting it mildly, and sending them through an electric sorting machine at an average speed of four hundred cards per minute. It requires from five to nine passes through this machine until all the cards are put in truly alphabetical and numerical order. During the last two years we have used the same system for numbering our licenses as the Department of Revenue uses in numbering automobile tags. This makes it imperative first to sort alphabetically, after which the numbers within the letter are sorted in numerical sequence. The machine which does this part of the job is illustrated by Figure 4.

(5) The correct license number on every report is of paramount importance, because the fifth and final operation by the machine is the preparation of a report on which is listed in numerical order the license numbers of all hunters who filed their reports as required by law. Uncanny as it may seem, this machine not only tells us that the holder of a certain license number filed his report, but it records with the same degree of accuracy the license number of the person who failed to file a report. The latter is accomplished by the printing of the letter "M" when there is a missing license number. See Figure 5 for a reproduction of a sample list.

Notifying Delinquent Hunters

This is the second year that actual enforcement of this provision of law was ever attempted. The Commission in 1937 decided to proceed in an educational way, and for the first two years postal card notices were sent to tardy individuals requesting that reports be sent in immediately.

How do we determine the names and addresses of hunters who failed to file their reports? From the numerical list of license numbers of reports filed, which also indicates missing numbers as explained above, we

trace the license number back to the Issuing Agent's Weekly Report of Hunters' Licenses Issued (on file in the office of the Commission) and secure the name and address of the person who purchased the license (See Figure No. 6).

Results Obtained From Notices

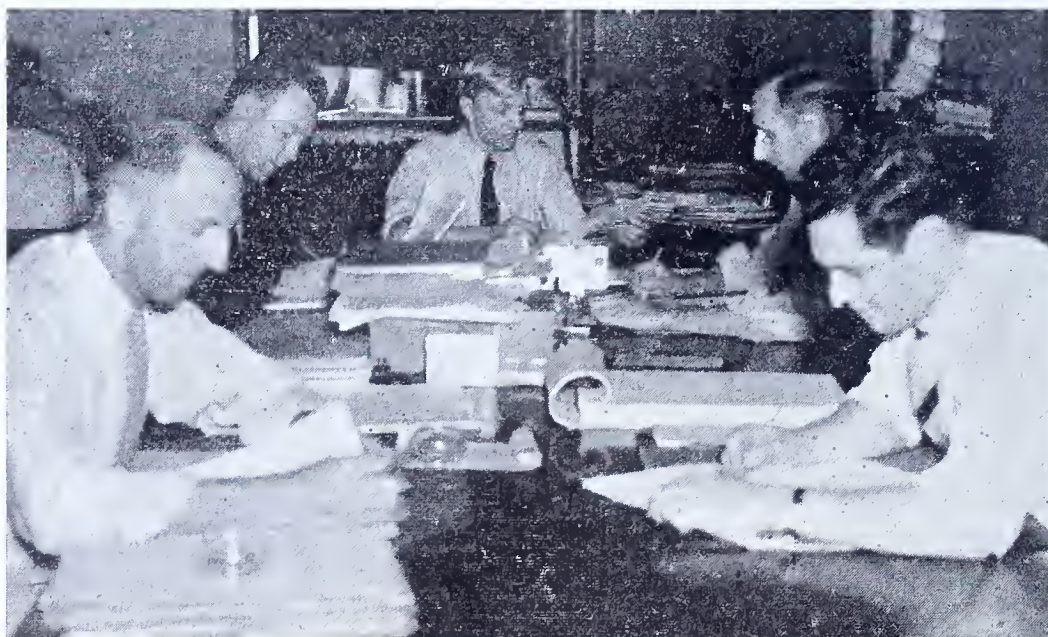
While the Commission did not receive a one hundred per cent (100%) response to these requests, the results were most gratifying. The Commission received 527,075 reports voluntarily, or eighty per cent (80%), of the 1938 licenses sold, as against 419,357 reports, or sixty-nine per cent (69%), for 1937. After tabulating the reports received for 1938 in response to the notices sent out, it was found that the number had been boosted to 635,489 Game-Kill Reports, or ninety-six per cent (96%) of the licenses sold. For 1937 we received 562,696 reports, or ninety-three per cent (93%) of the licenses sold. This is a gain of three per cent (3%) in reports received, despite the fact that

there were 53,986 more licenses issued during 1938 than 1927, which is noteworthy.

As this article goes to press the Commission is completing the addressing and mailing of approximately 21,000 letters to persons who failed to file their 1938 Game-Kill Report, or to take advantage of the reminder notices. The person receiving the letter is given an opportunity to sign an acknowledgment of guilt and to remit \$2.00 direct to the Game Commission. A settlement of this kind will save time and expense, and it is believed that a large percentage of the hunters involved will welcome this economical way to settle the matter, rather than await prosecution in the regular manner which would involve added costs and expenses.

Game Killed Past Two Years

We are giving below a report of the game killed during 1937 and 1938 as estimated by Field Officers compared with the results obtained by tabulating the Game-Kill Reports:



Experienced workers indicating names of delinquent hunters on Issuing Agent's Weekly Report.

The check-up for 1938, as for 1937, proved conclusively that past estimates of the game-kill by the Commission's Field Officers, in most cases, were too conservative.

The tabulation opposite does not include the game killed by the unlicensed men and boys living on our 190,000 farms who hunted legally without licenses. The number of persons hunting under these conditions is variously estimated from 50,000 to 100,000, . . . although a large percentage of the land-owners now buy licenses.

Check-up Reduces Cheating

If the net result in tabulating the reports were only a complete record of the game killed, it would indeed be a worthwhile undertaking and fully justify the expense and effort involved. However, much more has been accomplished by this check-up. The first year's tabulation brought to light a number of appalling irregularities in the issuance of licenses, deliberate violations of a very serious nature on the part of a considerable number of individuals. Numerous penalties were collected from those who apparently did not want to play the game on the level.

As this article goes to press the Commission's Field Officers are engaged in checking certain irregularities brought to light by the tabulation of the 1938 reports. While it is entirely too early to predict the final results, we are of the opinion that the irregularities discovered during 1937, when the reports were first tabulated, will show a substantial decrease during 1938.

Because of the joint action taken by the Department of Revenue, and the Game Commission, it will be more difficult for a repetition of these practices in future years, and cheaters who violate the law to secure a hunting license can expect to be punished.

Your Cooperation Needed

The question may be asked, and very properly so, what can I do to promote this forward program? Each and every hunter who reads this article can assist in a very fine way by (1) filing his own Game-Kill Report annually on or before January 15, (2) urging his friends to do likewise, and (3) making this article available to hunters who for some reason or other may not understand the importance of filing such reports. By and large, they are the ones who failed to file the convenient report issued with their license. Our hunters cannot expect the Com-



Figure 5. A glimpse at the numerical list of license numbers which showed up in the first tabulation, indicating that the report above was filed.



Figure 6. Issuing Agent's Weekly Report of Licenses, where the same group of numbers appear to check delinquents.

SEASON OF 1937				SEASON OF 1938			
	Estimated	Tabulated		Estimated	Tabulated		(as of July 12, 1939)
Deer, Legal Males,	25,009	39,347		Closed	Closed		
Deer, Antlerless	Closed	Closed		127,967	169,986		
Bears	471	537		211	381		
Rabbits, Cottontails,	1,924,760	3,074,820		2,847,285	4,222,659		
Hares, Snowshoe or Varying,	*2,420	*2,420		*2,120	*2,120		
Raccoons	30,526	29,842		40,551	35,790		
Squirrels	607,522	1,056,408		728,875	1,097,660		
Wild Turkeys	4,102	6,619		4,426	6,722		
Ruffed Grouse	88,018	177,683		119,884	222,863		
Ringneck Pheasants	373,121	371,526		503,694	511,132		
Quail	31,696	105,795		36,881	109,030		
Shore Birds	7,816	12,657		7,728	8,656		
Wild Ducks and Geese	29,821	16,758		44,155	21,231		
Blackbirds	43,563	78,543		55,682	78,078		
Woodcock	30,271	57,244		33,703	49,857		
Woodchucks	**	**		119,850	145,163		
Total All Species	3,199,116	5,030,199		4,673,012	6,681,328		
Total Weight	8,910,963 lbs.	12,805,172 lbs.		18,852,621 lbs.	25,285,113 lbs.		
Reduced to Tons, equals	4,455 tons	6,402 tons		9,426 tons	12,643 tons		

*For this species it was necessary to use the Field Officers' estimates only.
**No report obtained prior to 1938 season.

mission to continue mailing the special reminders of the past two years.

Last but not least, if the reports are to serve the best interest of the sportsmen, the kill must be correctly reported. Hunters who will cooperate in this manner will help their Commission to improve hunting conditions in Pennsylvania.

We are firmly of the opinion that once all our sportsmen generally understand the value of these reports to them and their Commission, we will even exceed the unusual record established this year; namely, receiving Game-Kill Reports from ninety-six per cent (96%) of the hunters who purchased licenses in 1938.

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"On Wednesday, July 12, three members of the Three Springs Boy Scout Troop, together with their Troop Leader, accompanied me to Game Lands 99. They spent the day helping me to hoe a plot of field corn planted there."—Refuge Keeper David Titus, Huntingdon County.

Two large bucks entered a deserted street in Shenandoah recently, became frightened when a number of people appeared, and started to run. One fell and broke its neck, the other its leg.

A spike buck was killed by an automobile near Rodgersville recently.

NEW GAME LANDS ACQUIRED

Since reported in the July 1939 issue of the Game News, the Commission settled for and secured title for the following tracts of land, all but three of which are additions to previously acquired blocks of State Game Lands:

County	Grantor	Acres	Game Lands Number
Fulton	Robert G. Alexander	102.0	65
Fulton	Robert G. Alexander	134.6	65
Berks & Lancaster	John A. Styer	45.1	52
Lycoming	St. Benedict Village Co.	4,336.3	75
Erie	County Commissioners	198.8	101
Erie	Emory J. Cherry	20.9	154
Erie	Fred Wallace	51.3	154
Bucks	County Commissioners	6.8	157
Northumberland	Kulp Lumber Company	462.3	84
Schuylkill	Federal Land Bank of Baltimore	245.2	160
Erie	S. Riddell Lewis	234.6	161
Erie	Federal Land Bank of Baltimore	185.3	162

The three tracts last mentioned were new purchase projects and adjacent lands are under contract for purchase.

Acquisition of the tracts mentioned above brought the aggregate area of State Game Lands to 609,568.12 Acres.

During a meeting of the Commission July 12, due to lack of time, consideration could be given to only a comparatively few of the options then on file. A total of 73 options, aggregating 26,294.6 acres, for which \$110,193.50 was asked were available. A summarization of actions taken follows:

Action by the Commission	Number of Options	Total Acreage
Unconditionally accepted	13	4,134.8
Counter offers and conditional acceptances	3	3,286.0
Rejections	2	3,615.0
Postponements	55	15,258.8
Total	73	26,294.8

Owners of two tracts for which counter offers were made agreed to sell at the reduced prices offered by the Commission. This took care of the third conditional acceptance and purchase contracts were then entered into for these three tracts as well as the thirteen unconditionally accepted.

The sixteen individual tracts for which purchase contracts were made are here listed:

County	Owner	Adjacent to Existing Holdings		New Projects
		Game Lands Number	Acres	
Bucks	William K. Long	157	3.0	
Wayne	Clarence T. Bailey, et al	70	512.0	
Tioga	John G. Dartt	37	155.0	
Tioga	Glenn Stocum	37	225.0	
Tioga	J. C. Bailey	37	798.0	
Sullivan	William Temple	13	400.0	
Perry and Cumberland	McCormick Estate			900.0
Juniata and Perry	Kulp Lumber Company			105.0
	Edward S. Thompson, et al			532.0
	Laura E. McNaughton			100.0
	Howard Scholl, et al			315.0
	Seidel Bros. and Leonard			37.8
Warren	Enoch B. Cornish	143	52.0	
Columbia	Headley Sult	55	50.0	
Indiana	Farmers & Miners Trust Co.			2,700.0
Indiana	John C. Arnold			536.0
Totals			2,195.0	5,225.8



Symbolic of future cooperation that exists between Sportsmen, Farmers, and the Game Commission are these large signs which denote Farm-Game Projects.



This Jenny Wren successfully reared her brood of young in a nest wedged tightly against the back of the mail box. When the postman drove up in his car she would fly out. When he left after depositing the mail Jenny scrambled back in the box unmindful of the letters, papers, etc., in her way.



The number of skunks killed on the highways is appalling. The skunk is a valuable fur-bearer and motorists should avoid running them down if at all possible.

OBEY THE LAW » » » HELP YOUR PROTECTOR

Stop the cheater by reporting his license number! Automobile license numbers will help too!

The vast majority of Pennsylvania's hunters are real sportsmen, and observe the law. They can help themselves by reporting promptly those who violate. (Use the list below:)

DISTRICT GAME PROTECTORS

COUNTY		Phone
Adams	R. C. Anderson, 145 Buford Ave., Gettysburg	249
Allegheny	R. A. Liphart, 334 East Eleventh Ave., Homestead	1550
Armstrong	R. H. McKissick, Route 3, Kittanning	2082J
Beaver	J. Bradley McGregor, 1099 Turnpike St., Beaver	9095
Bedford	John S. Dittmar, Loysburg	7
Berks	Merton J. Golden, 5 Park Ave., Pennside, Reading	4-5850
Blair	C. C. Brennecke, 1520 Twenty-first Ave., Altoona	2-6974
Bradford	Rodman C. Case, 927 Main St., Towanda	337
Bucks	S. Earl Carpenter, Doylestown	
Butler	Troy C. Burns, Butler	
Cambria	Elmer B. Thompson, 396 Coleman Ave., Johnstown	3591
Cameron	Maxwell N. Ostrum, 321 Third St., Emporium	4482
Carbon	W. C. Achey, 311 First St., Weatherly	4741
Centre	Thomas A. Mosier, Bellefonte	
Chester	Jarvis E. McCannon, 83 South Fifth St., Coatesville	191
Clarion	H. J. Updegraff, Shippensburg	302R1
Clearfield	Frank E. Couse, Clearfield	
Clinton	Miles L. Reeder, Route 1, Lock Haven	108
Columbia	M. L. Hagenbuch, 295 Penn St., Bloomsburg	692
Crawford	George W. Keppler, 255 Locust St., Meadville	1146
Cumberland	Joseph M. Foreman, 239 West South St., Carlisle	234J
Dauphin	Mark P. Motter, 4231 Elmerton Ave., Colonial Park	3-5153
Delaware	B. J. Davis, 436 East Baltimore Ave., Media	295
Elk	Edward L. Shields, Eschbach Road, St. Marys	5050
Erie	John G. Kennedy, Erie	
Fayette	Theodore T. Schafer, 16 Wilmington St., Uniontown	3794
Forest	Carl B. Benson, Tionesta	189
Franklin	W. W. Britton, 573 East Catherine St., Chambersburg	195
Fulton	Isaac Baumgardner, South Second St., McConnellsburg	22
Greene	John F. Blair, 465 East Greene St., Waynesburg	267
Huntingdon	Thomas F. Bell, 407 Sixteenth St., Huntingdon	158
Indiana	O. M. Pinkerton, 21 South Twelfth St., Indiana	1934
Jefferson	Lester J. Haney, Brookville	707W
Juniata	Herman W. Fisher, 611 Washington Ave., Mifflintown	176
Lackawanna	Francis E. Jenkins, Layton Road, Chinchilla	367R2
Lancaster	J. M. Haverstick, 741 College Ave., Lancaster	5540
Lawrence	Frank L. Coen, Route 5, New Castle	5211
Lebanon	Philip H. Melching, 409 Gannon St., Lebanon	681
Lehigh	William A. Moyer, 25 North Eighteenth St., Allentown	2-6739
Luzerne	Philip S. Sloan, 75 East Bennett St., Kingston	7-5382
Lycoming	Frank F. Crosby, 1442 Memorial Ave., Williamsport	2-7313
McKean	William J. Carpenter, Mt. Jewett	2521
Mercer	George L. Norris, 434 Greenville Ave., Mercer	6
Mifflin	Ralph E. McCoy, 317 Logan St., Lewistown	2916
Monroe	Arthur N. Frantz, 75 Elk St., East Stroudsburg	1272
Montgomery	Ambrose Gerhart, 141 Central Ave., Souderton	873
Montour	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Northampton	Morris D. Stewart, 1535 Northampton St., Easton	2-2023
Northumberland	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Perry	Hugh H. Groninger, New Bloomfield	80
Philadelphia	E. W. Stucke, 7806 Verree Ave., Philadelphia	Phone—Pilgrim 4813
Pike	John H. Lohmann, 111 Catherine St., Milford	240
Potter	Arthur G. Logue, Coudersport	278
Schuylkill	Leo E. Bushman, 76 Pottsville St., Cressona	370
Snyder	Clarence F. Walker, Beavertown	Phone—Beaver Springs 16R31
Somerset	John Spencer, 354 West Garrett St., Somerset	139
Sullivan	Robert Latimer, Muncy Valley	Phone—Strawbridge 15R2
Susquehanna	William D. Denton, New Milford	Phone—Jackson 16
Tioga	L. H. Wood, 3 Eberenz St., Wellsboro	196R
Union	Fred S. Fisher, 400 Green St., Mifflinburg	6257
Venango	William T. Campbell, 523 Liberty St., Franklin	1107
Warren	Lawrence E. Linder, 105 Monroe St., Warren	1689
Washington	Carl C. Steinbrook, 52 Harrison St., Washington	566
Wayne	Maynard R. Miller, 30 Stanton St., Honesdale	676
Westmoreland	R. D. Reed, 1610 Ligonier St., Latrobe	1140W
Wyoming	Ralph E. Flaugh, 105½ Warren St., Tunkhannock	3671
York	A. C. Ganster, 520 Girard Ave., York	7434

Space does not permit listing the Game Protectors on special assignment, those in charge of Land Management, and the large corps of Deputy Game Protectors.

PREVENT

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PROTECT GAME

PENNSYLVANIA GAME COMMISSION
W.P.A.

PENNSYLVANIA GAME NEWS



OCTOBER 1939

TEN CENTS

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HUNTING LICENSE REVOCATIONS



FOX HUNTING

By NEWBOLD ELY

Cover from Oil Painting
by John Beck.
Williamsport.

EACH year several hundred people are killed and many seriously injured as a result of hunting accidents throughout the country. Pennsylvania is by no means an exception to the rule, although she has for years carried on energetic and far-reaching campaigns to make hunters safety-minded.

The Game Commission realized a long time ago the potential danger to human lives as a result of the heavy concentration of hunters throughout the State, and for that reason made a serious study of this problem. Every possible means of warning was utilized prior to each hunting season in an effort to lessen the casualties, but these efforts met with little encouragement. Hunters still insisted upon shooting themselves, or each other in mistake for game.

Later on the Commission drafted laws providing heavy penalties and imprisonment for those who shot at human beings in mistake for game. Of recent years these penalties have been made more severe. As a result of careless shooting last season ninety-seven persons were given hearings by the Commission and in many cases penalties imposed.

Last season the Commission launched the most intensive safety campaign ever undertaken. Newspapers and radio stations played it up splendidly before the season. Safety-first motion pictures were distributed to practically every theatre in the state prior to the opening day. Thousands of posters cautioning against carelessness with firearms were distributed throughout the state. Every possible avenue of news and visual dissemination was utilized and yet there were still a lot of hunters killed and many more injured before the end of the season. True it did some good, for the number was less than in years past, encouraging indeed when one realizes there were more hunters afield.

The only way to avoid hunting accidents is to know exactly what you are doing at all times while in the field. If everyone took the utmost care while handling his gun and always withheld his fire until he was absolutely certain that the "game" he was shooting at was not a brother hunter, or that it was not between him and a companion, the number of accidents would be greatly reduced. Of course there are always so-called "freak" accidents, but these are far in the minority and are usually unavoidable.

There are more rules to safety than just being careful while in the field. The first thing every hunter should do is to make sure his gun is in perfect working order. He should make sure no wadding is in the barrel, that the action works smoothly, that the gun is sighted in properly, and many other things.

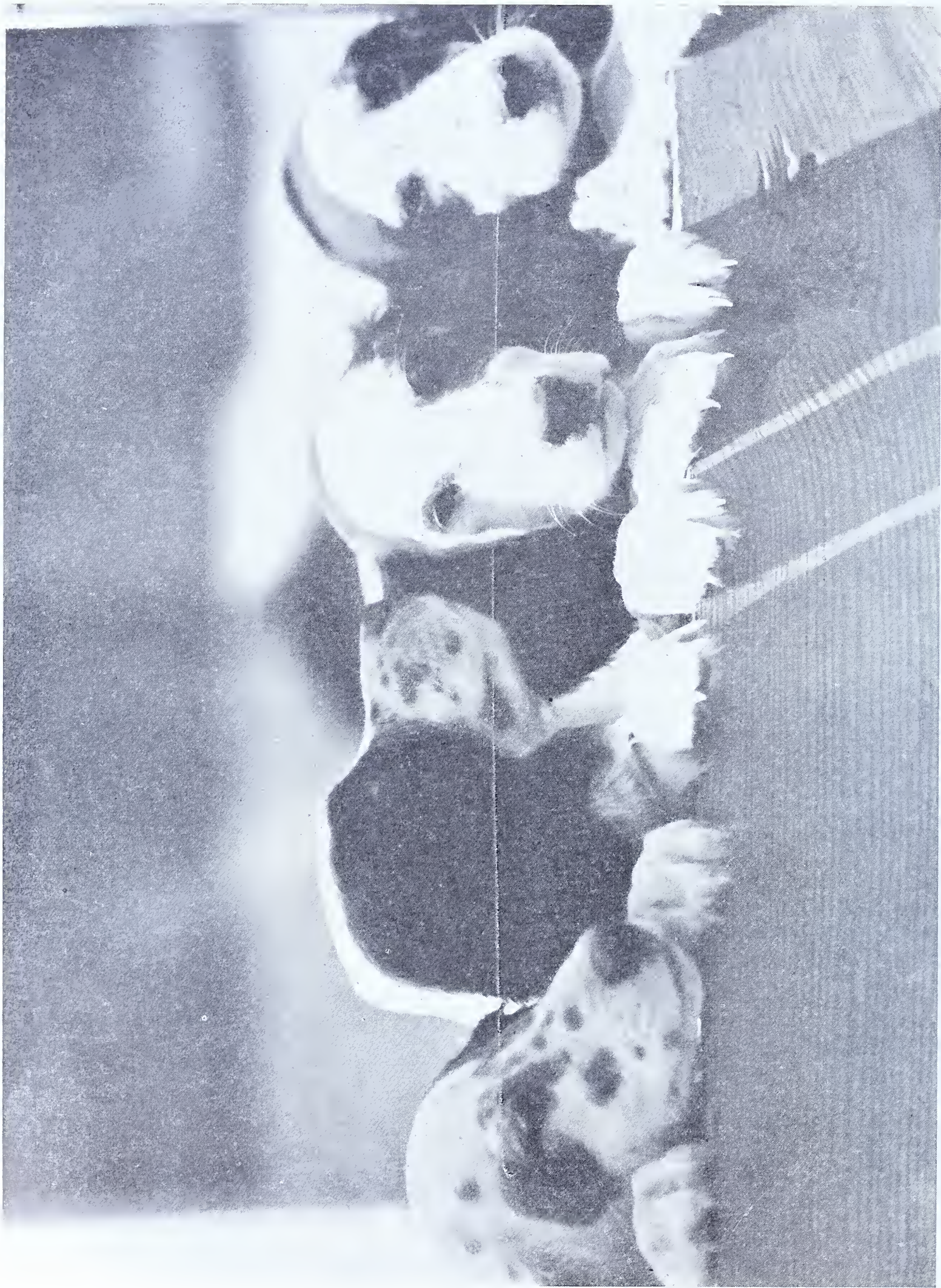
Likewise if he is taking a younger companion on his first hunt he should teach him the right way to handle his gun; youngsters are apt to become over-enthusiastic as a result of their first time out and sometimes either injure themselves or some one else. Every good sportsman owes it to himself to coach the young fellows. After all the principle involves the lives not only of the younger but of the older sportsman. The woods and fields must be made safe for all, else they will be safe for none. The old adage "An ounce of prevention is worth a pound of cure" still holds good — that includes wearing red on your hunting clothes.

If all hunters would be concerned more about themselves and their fellow-men than they are about hitting the game at which they shoot, there would be fewer accidents. Most of them are a little over-enthusiastic. Such enthusiasm, while more or less justifiable after one has been chained to this or that job for eleven months out of the year, must nevertheless be soft-pedaled in the future if hunting is to continue to be a safe sport. Excitement born of the chase is a dangerous expression. Those who shoot first and think afterwards sometimes are tortured with the memory of some catastrophe as long as they live.

The privilege to hunt in Pennsylvania is one that no one likes to be denied, yet some hunters, because of their continued carelessness, ultimately may force legislation which will be so drastic as to revoke for life the hunting license of an individual who kills or injures another while hunting. There is absolutely no excuse for casualties of this kind.

This spring and summer a number of persons have been shot in mistake of ground-hogs. If such things happen in the summer months when only a handful of hunters are afield, think what such carelessness, magnified to include an army of over half a million, will lead to if everybody disregards the laws of safety-first.

Sportsmen, it's up to you!



It Won't Be Long Now!

NUT TREES A BALANCE TO WILDLIFE

By JOHN SEDAM

FOR the past few years various members of the Pennsylvania Nut Growers' Association have recognized the relation of nut trees to a balance in nature and wildlife. This interest has been extremely gratifying both to Game Managers and interested sportsmen.

Nut growers directly benefit wildlife by promoting the planting of nut trees as an important agricultural crop. In addition, they have spurred interest in Wildlife Conservation by growing and selling seedlings of plants for wildlife feeding. Various members of the Association have placed lists of these available seedlings at the disposal of their clients.

Naturally such lists include both nut producing trees and shrubs and berry producing trees, shrubs, and vines. Due to the lengthy discussion that might arise, let us confine this talk to the nut trees and their relation to nature and wildlife.

Our second growth forests, farm woodlots, orchards, fence rows, cultivated fields, and abandoned farm land provide a habitat essential to various species of upland game and wildlife. These environs, together with the wildlife thereon, constitute nature in a broad scale. There is a definite correlation between plant growth and wildlife. To be properly balanced all vegetative growth should maintain a definite supply of birds and animals, this dependent largely upon the amount of food and protection provided.

Nut trees as a group provide the foods most nutritive and those that are essential to complete the requirements of wildlife. The very fact that nuts contain a high percentage of protein and carbohydrates explains why the fruits are sought by many birds and animals. Hybernating animals build up a reserve supply of fat by gorging themselves prior to beginning their winter's sleep. Migrating birds, native grouse and wild turkey eat the crumbs of acorns, walnuts, hickory, etc., dropped by energetic squirrels; the larger birds feeding heavily on small acorns, chestnuts, beech nuts, hazelnuts and chinquapins. Deer maintain a healthy state by eating acorns and soft shelled nuts throughout the fall and winter. These many known feeding habits emphasize the importance of nut producing trees in a balanced wildlife habitat.

The very fact that our oak species, grouped among our most important timber trees, do not produce nuts of commercial importance does not lessen their value. Of all the nut producers they perhaps provide the largest single sources of food for wildlife. Others of importance to wildlife and probably of greater interest to the Association include the walnut varieties, butternut, hickory, beech, hazelnut varieties, chinquapin, and chestnut. Naturally these have an important commercial as well as esthetic value.



Hazelnuts

Other introduced species such as the pecan varieties are of value from the commercial standpoint.

Taken separately or in groups all nut producers help provide a balance in nature and wildlife, even though they are grown commercially and the greater portion of the crop picked. Walnuts, butternuts, and hickory species supply food for squirrels but produce little available nourishment for other wildlife species. This group is commonly interspersed in lower slope timber stands and in woodlots along fertile valleys. They are quite necessary to complete the natural tree succession and provide habitat essential to the greatest variety of wildlife. Hybrids and improved varieties of nut trees have been developed by growers; and by adequate advertisement have been sold and planted throughout many farm regions. Whether planted or in orchards, along fence rows, or adjacent to woodlots, these trees will produce larger crops than native trees. Such planting does much toward making a more desirable wildlife habitat on and adjacent to farm areas.

Our native American beech is interspersed over a large area of Pennsylvania, being present in larger quantities in the beech-birch-maple forest stands. It is really the basic wildlife food in these localities. Though large crops are the exception rather than the rule, there are occasional years when enormous crops of nuts are produced. Good years usually bring a bumper crop of wildlife into these areas, including species such as the squirrel and bear which migrate from other localities where a scarcity of food exists. Thus you can see how this nut producer enters into nature's scheme in the balance of wildlife. The American beech, not ordinarily regarded as a commercial nut tree, normally supplies a staple food for a variety of wildlife, including the deer, bear, raccoon, squirrel, ruffed grouse and turkey. The value of this nut tree to wildlife cannot be disputed.

Though reduced to a memory by the blight, our native chestnut, once the staple food of most forest game, still produces small crops of nuts on scattered sprouts. Few of these escape the greedy palms of Sunday hikers, but those that are left help maintain the several forms of wildlife. It is hoped that the research work being carried out by members of your association, Research Foresters, interested individuals and the Federal Government will eventually control the destructive blight and return this tree to the lists of timber trees and important wildlife foods. As a source of scion stock, for game purposes, and as a commercial crop you have all seen the introduction of the Asiatic chestnuts into the United States. These are important but I believe we all look forward to the day when the native chestnut might again become the principal native nut producer.

Naturally all of these tree crops are of extreme importance in nature's scheme. Probably equally important from the standpoint of a wildlife balance are the nut producing shrubs which include all varieties of hazelnut and chinquapin, and the dwarf varieties of Asiatic chestnuts. These, since they produce rather small, thin shelled edible nuts, are eaten by many species of game and other wildlife.

Forests to provide the best wildlife habitat, should contain a mixture of uneven aged trees, including a percentage of nut producers, and an understory of berry and nut producing shrubs. The chinquapin and beaked hazelnut in their native hillside environment help provide the nut supply over large areas throughout Pennsylvania; the chinquapin found most commonly in the southern counties. Throughout the farm communities the American hazelnut produces much necessary food. The fact that nuts are available for game consumption in a relatively few years after planting makes these shrub species quite beneficial in wildlife plantings.

By carefully considering the place of individual nut producing trees in the scheme of nature and then just as carefully summing up the total value of all nut producers, it is easy to determine their definite relation to a balance in nature and wildlife. As the Irish potato is to the average American so are the fruits of the nut producing trees and shrubs to our native wildlife families.

Nut growers associations, county agents and others have promoted the planting of nut trees as a food crop for human consumption. In addition, there is a group of people including the sportsmen, game departments, and others who plant nut trees specifically for wildlife food. This last group presents a ready market for all cull hybrids and inferior varieties of nut trees and shrubs. Any nurseryman that recognizes this demand for reasonably priced cull and inferior nut producing trees and shrubs can enlarge his business, and at the same time be instrumental in improving habitat for wildlife.

The Value of Supplementary Training

By GILSON W. DAVIS

BEFORE leaving for the Game Commission's Training School, as a student of the third refresher class, I wondered what in the world could be found to keep twenty-three Game Protectors and me occupied for fourteen days. I found out. Actually they were the busiest two weeks I have ever put in. Subject after subject, class after class, together with field trips, demonstrations, recreation periods, meals, inspections, clean-ups and so on, kept one going from morning until night.

The theme of the refresher course this year was the all important "Wildlife Food and Cover Development on Farm and Forest Land". This subject was approached from several different angles. First we were shown how the Game Commission has increased the wildlife food and cover by development work on its own lands and lands under its control. Next, we briefly covered the food and cover section of Stoddards "Bobwhite Quail Management".

Then several representatives of the U. S. Soil Conservation Service in this State outlined their program and took the class to some of their projects in Jefferson and Indiana counties. They are doing a wonderful job, that of soil saving, and it is being done in such a manner that wildlife is greatly benefitted. They know that by increasing the bird and animal populations on the farms, the farmers will be repaid in insect control. The strip cropping methods tend to furnish travel lanes and other kinds of cover and food for wildlife. Plantings on eroded spots comprise mostly wildlife food-bearing trees and shrubs. There is a certain amount of soil

erosion on all farms and every farmer should get in touch with the U. S. Soil Conservation Service and have their representatives survey his farm, then follow out their recommendations. All this valuable work can be carried out on farms at no additional cost, just by rearranging some of the planting and changing several of the practices now being done.

We had a very profitable two-day field trip to the Pymatuning Reservoir, where the Game Commission maintains a wild waterfowl refuge and conducts a free museum where wild waterfowl specimens are displayed. Two walking trips were made into the Refuge. On each trip we covered 5 miles in about 3 hours. The first tour was devoted to plant observation on the south side of the Refuge, under the expert guidance of Burt Oudette, Game Protector in charge of the Pymatuning waterfowl sanctuary, also a fellow student in the class. One hundred fifty-six different species of food-bearing plants were observed and recorded. Quite a few members of the class were expert in identifying plants, and I was kept busy recording the different species as they were recognized. This large variety of food-bearing plants undoubtedly accounts for the fact that our bird identification tour the next morning yielded the unusually large total of 81 birds. Our expert bird identifier was R. L. Fricke, Ornithologist at the Carnegie Museum. Many species of waterfowl were present in the Refuge at the time, but our tour was entirely on the land. We didn't go into the Refuge on boats because of the disturbance we would cause among the wild waterfowl.

The food-bearing plants and birds we observed certainly proves that the Pymatuning area has lost none of its qualities as a wildlife Eden, and is better by reason of the extensive planting and development program of the Commission. Several hours were spent in the museum with both experts, and the intricacies of bird identification were explained.

Successful road building and trail maintenance were explained by J. C. Fuller, Superintendent of the C. C. C. camp located on State Game Lands No. 44, near the school. A half-day's field trip was devoted to an inspection of the work of their camp on the Game Lands. This camp can certainly be proud of the work it has accomplished.

With reference to the food and cover program we also heard reports on the various research projects being carried out in the Cooperative Research Unit through the Pittman-Robertson Federal Aid Act. These projects cover ringnecks, grouse, deer, woodcock, a county-wide trapping survey and controlled shooting area, and the data obtained will be very valuable in forming the policies and programs of the Commission in future years.

Next, live game trapping was demonstrated and the Commission's trapping program outlined. Such trapping as well as restocking will be an important phase of the program in future years.

A very interesting study of the various phases and identification of bounty pelts was presented.

Legal procedure, how to conduct a trial, investigation, etc., proved most interesting, and was very valuable to the entire class.

Many valuable points also were obtained in the stalking, concealment and use of cover demonstrations as put on by Sergeant Pierce, of the Motor Patrol. He could conceal a white elephant in a desert.

Under the heading of Public Relations, the School Superintendent, Wilbur M. Cramer, explored such valuable subjects as: Interviews and How to Interview; Letters and Their Composition; Business Practices, etc.

The miscellaneous subjects included in the course were: Nature Photography; Qualifications of a Successful Game Protector; Winter Feeding Methods; Cartridge Reloading and Pistol Instruction; Car Searching, and others.

Leaving the school was a tough proposition because of the friendly feeling that existed between the men, who are all fine fellows, better qualified as a result of this added training to cope with the many problems that confront them. Wildlife in general will be benefitted because of the instructions received by the students at the Training School.



Members of Refresher Class studying Aquatic plants at Pymatuning Refuge.

CORALBERRY

Its Value in Erosion Control

By E. GLENN MUSSLER

Assistant Biologist Soil Conservation Service,
U. S. Department of Agriculture.



This Coralberry plant produced three stolons in less than three years and nearly thirty new plants have started from them.

CORALBERRY, sometimes called Indian currant, is a shrub 2-5 feet high very closely related to snowberry. Its scientific name is *Symphoricarpos orbiculatus* (Greek, symphorein, to bear together and karpos, fruit, referring to the clustered fruits).

Coralberry has been planted for many years around dwellings and gardens for its ornamental values, chiefly the dark red fruits densely clustered along the slender branches and remaining plump and fresh far into the winter and its foliage remaining unchanged until severe frost sets in.

During the past few years coralberry has been planted with other erosion control and wildlife plant species in Pennsylvania by the Soil Conservation Service, along eroding woodland margins, gullies, roadbanks, thickets and fence-rows.

Erosion Control Value

Coralberry is hardy far north, will thrive on almost any soil from heavy clay to dry gravelly banks, and can be propagated readily by hardwood and greenwood cuttings, by division and also by seeds. Its ability to spread by means of stolons and form dense thickets make it a very desirable erosion control plant.

One year old rooted cuttings planted near Indiana, Pa., in the fall of 1936 using three foot by three foot spacing (4840 plants to the acre) along a grassy woodland border were observed in May 1939. They were producing stolons 6-7 feet long with as many as four plants per plant and each stolon layering

several times at the various nodes. Each layer will produce a new plant. Since the original planting, the spacing of plants is approximately one foot by one foot or 43,560 plants per acre, a nine-fold increase in less

than three years. Grass and weed competition seems to hasten layering as the stolons are forced to run along the ground. Unable to rise above the grass and weeds, they come more quickly and firmly in contact with the soil where layering takes place. Moisture conditions are more favorable under weed and grass growth, therefore more rapid layering.

Mature wild-dug planting stock (pruned) planted 3 ft. x 3 ft. the spring of 1936 on raw gullies and ditches and observed the spring of 1939 have produced stolons as long as seven feet and lawered in many places. It can therefore be seen that coralberry readily produces thick ground cover and serves as an excellent soil binder.

One year old seedling stock has frequently been observed layering the second year after planting.

Wildlife Values

Stomach records indicate that the fruit of coralberry is eaten by nine species of birds, including ruffed grouse, bobwhite, ring-necked pheasant and wild turkey.

Coralberry bears fruit soon after planting and is partially shade tolerant. Planted one year cuttings will bear fruit the first growing season. One year old seedlings often bear fruit the second season. The fruit is available to wildlife throughout late summer, the critical winter months, and late spring.



Coralberry produces a dense thicket in a short time.

A BOY'S FIRST GROUSE

by

STEWART PARNELL

NIGHT paused and changed tone. Dead black merged into vibrant darkness. Awakening restlessness, preparatory to the birth of a new day, seemed to steal through the forest land and stir the wild life therein. Soon, the first gray streaks of dawn would soften the eastern sky.

An alarm clock clattered in the cabin, framed by trees and nudged into the protecting hillside of the western bank of Big Yellow Creek. A man reluctantly pulled himself out of bed and, shivering in the sharp and keen mountain air, scurried to the fireplace where he poked the dormant coals into flame and then lighted a gasoline lamp. While he dressed hurriedly, his two companions, wrapped snugly in their blankets, remained motionless, perhaps feigning deep slumber until fire and lamp warmed the cabin.

The two companions were Bill and John, the early riser being known as the Judge. It had been agreed that on this day, which was Saturday, the Judge would drive to town some fifteen miles away and bring Dan, the son of John, and Gib, the Judge's son, seven and twelve years of age respectively, to the mountain camp for the day.

The Judge opened the cabin door, breathed the pure mountain dawn-air, plunged his face and hands into ice-cold spring water that made town water taste like medicine, and made ready to depart. As he unlocked his car, he observed with deep satisfaction the trees and bushes heavy with dew, the moist earth and dampened leaves, ideal conditions for a bird dog, listened to the murmur

of the stream and voices of the forest, and, grateful that he was alive, in good health, and permitted thus to commune with Mother Nature, he bounced his car up the road, a smile on his face and a song in his heart.

The car stopping at his home in town caused intense activity therein. Hurried footsteps, the door jerked open, a twelve year old boy disclosed his first day of hunting, his face glowing with the light of happy anticipation, words tumbling excitedly out of his mouth:

"Hi, Dad. Been waiting for you since five o'clock. I'm ready. Wait 'til I get my 410 and shells. Goodbye, Mother. I'll be all right."

The Judge chuckled and smirked to himself. He had been waiting and looking forward to this very day for a long time and he was not a bit surprised when, from an upstairs window, a soft voice said: "I know you two will be all right, dear, but do be careful and come home early. Have a good time."

"Don't worry about us, Mother darling," reassured the Judge. "We'll be careful. Hope we bring you a bird or two."

"Hope nothing. We're going to bring 'em. Gib shouted back as the car started away.

At John's home, the same scene was enacted with little variation. As the car stopped Dan burst out of the front door, shouting back farewells, promises to be good and careful, and climbed into the car. On the way to camp, the conversation was real man-tall about dogs, guns, shells, shot, powder, rabbits, squirrels, quail, grouse, ringnecks, woodcock, and the like.

When the car pulled up to the cabin, the two dogs, sensing action, rushed out in frenzied excitement, breath blowing twin funnels in the frosty morning air. Bill smiled broadly from the door and said: "While I put the finishing touches on breakfast, you two young fellows look around that log under those three trees over there and see what you find. Hurry, now. Breakfast'll be ready in a jiffy." While the boys ran toward the log some fifty yards away, Bill slapped the Judge on the shoulder, saying: "I sure am tickled. After you left, I saw three squirrels frisking around in those trees and shot two of 'em, figuring the lads would get a big kick picking 'em up."

"They're getting more than a big kick Bill," said the Judge. "This sort of thing puts them on the right track. Teach a boy to hunt and fish and he will be on the jury not before it."

At that moment, the woods rang with two shouts of glee as the boys, wide-eyed and mouths open, rushed back to the cabin, each holding a squirrel aloft by the tail.

"That starts the day off just right," declared Bill from his position of authority at the stove. "Well, I guess we're ready. Wash your hands, boys. Soup's on! Come and get it! And I want you lads to eat a whopping big breakfast. You can not hunt right if you don't eat. Must have something sticking to the ribs. Now, sail into those sausages and buckwheat dodgers."

A hunting camp breakfast is one of life's real delights. An appetite, that seems to know no bounds, brushes aside and ignores the careful counting and measurement of calories, vitamins, and carbo-hydrates that too often deaden and render joyless the eating of food in towns and cities. The boys speedily consumed three cakes of sausage and five plate-size buckwheat dodgers, putting to shame their elders.

After breakfast, Bill, who had a bad foot, suggested that he and young Dan hunt squirrels in the adjacent woods. Maurice, John's brother, arrived with his dog to hunt grouse with John in the heavy laurel and pine on Fowler Hill as was their annual custom. The Judge and Gib paired off together with their dog, Bozo, a black and white and tan-ticked English setter.

The Judge and Gib left the cabin in their old ramshackle hunting car and decided to try the Smith farm to which they had been invited with the assurance that rabbits and ringnecks were plentiful and had not been hunted very much. After two hours of monotonous tramping and no game sighted, the Judge commented that it was the same old



With startling swiftness a grouse exploded from the thicket's edge and thundered upward.

Illustrations by L. E. Carroll

Editor's Note: Here is a story that every sportsman should read, particularly if he has young sons who will arrive at hunting age this season.

tory nine times out of ten. Highly recommended happy hunting grounds seldom produce game.

At the Judge's suggestion, they had a bite of lunch and moved to the Laurel Run Dam in Pine Township. The dam afforded good bass fishing and was surrounded on three sides by pine and laurel which always contained grouse due to the excellent cover.

Resting on the footbridge over the spillway of the dam, the two hunters, father and son, planned their campaign in this section. Originally used as a log dam in the days of big timber, an old-fashioned earthen breast, one hundred and fifty yards in length, backed up the waters of a half dozen springs and brooks for a distance of three thousand yards. Bordered on the left by high ground, the dam merged gently on the left into low and marshy land. At the head of the dam, a quagmire, impassable unless frozen, stretched into a region of stumps, fallen timber, and hick laurel, an almost impenetrable sanctuary for game.

The two hunters, young and old, decided to hunt the right side of the dam up to the wamp and then return and comb the left side, eventually quartering up the ridge on the left to the edge of fields and farming land. Grouse always abounded in this territory, abundance of feed and density of protective cover making complete annihilation impossible and preserving enough birds for feed from year to year.

Near the head of the dam, the two hunters encountered a wire fence. The Judge secretly glowed with satisfaction as he observed Gib exhibit one mark of a good hunter by the careful and prudent manner in which he arrived on the other side of the fence. The young lad, without prompting, broke his gun, thrust it muzzle first under the fence at a spot least likely to damage the gun, crawled over the fence about five yards distant from his gun, then approached the gun from its side, grasped it near the middle, kept the muzzle pointing downward and away from his father, closed the breech and proceeded on his way.

Just after the Judge climbed over the fence, the quartering of the dog, Bozo, jumped a rabbit to the left which ran toward the hunters, passed within ten feet, and kept going straight away. The Judge shot at the rabbit coming with the right barrel of his single trigger double-barreled twelve gauge hot gun, missed the rabbit, whirled and cut loose at it with the left barrel, but that punny merely flirted its white cotton tail in derision as it skimmed over a log and sped on untouched. Keen disappointment registered on Gib's face and his lower lip quivered just a bit as he said disconsolately: "Gee, Dad, that wasn't so good."

The Judge raved inwardly and then prayed silently for another chance so that the boy would have some game in hand at the close of day, the lad's first real day of hunting. He disgustedly grumbled to himself: "Dog-gone my dumbness, shooting too quick, and I suppose that'll be the last piece of game we'll

see all day. Been that way all season. One day, plenty of game. Next day, scarce as hen's teeth. If I have to take this boy home without at least one piece of game, I'll feel like a skunk. Oh Lord, let us get just one piece of game, anything'll do!"

Gib sort of felt that the "Old Scout", as he and his younger brother affectionately dubbed their Dad, had failed to perform in accordance with the sure-shot never-miss hunting stories he had read in outdoor magazines. Nothing the boy's downcast countenance and sensing the thoughts running through his mind, the Judge indulged in a bit of comforting philosophy as folks often do when things go wrong:

"Well, Gib, that's a perfect case of shooting too soon. I should have taken time. Never mind, the day is young and we'll run into other game. After all, it isn't the amount of game you get. It's the fun and sport of it that counts. Come on. Let's try the other side of the dam. I always had better luck over there anyway."

Buoyed up by the spirit of the real optimist that better times and better luck are just around the corner, they retraced their steps, walked across the top of the dam breast, and then started to parallel the left side of the dam. After advancing twenty yards, the Judge stopped and said:

"Gib, during the woodcock season, Bozo and I flushed ten woodcock over on Yellow Creek near the Deal Bridge and I missed every blessed one of them. The brush is high and thick in that bottom requiring quick shooting and I was using the twenty gauge modified shot gun which doesn't spread much on close shots. In fact, it's almost like shooting a rifle at twenty yards or less. After the first six misses, you should have seen that dog, Bozo, look at me with disgust showing plainly in his eyes. The

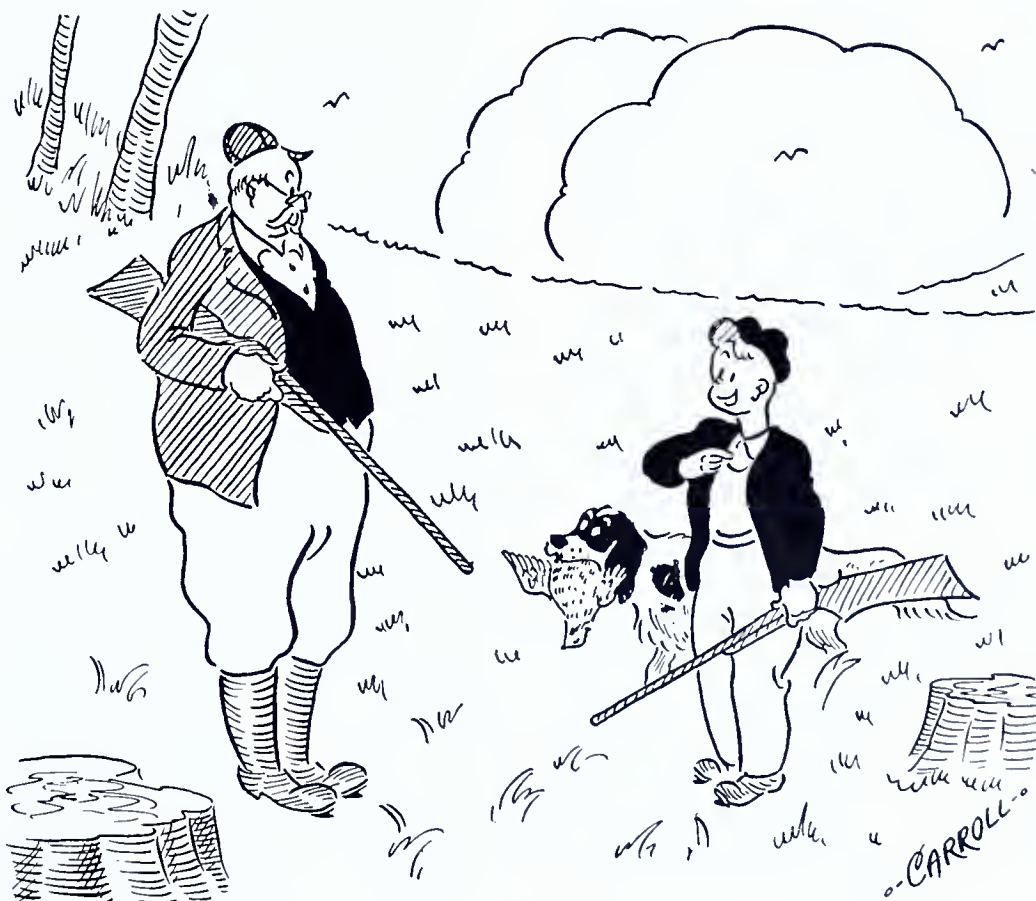
hurt expression on his face was almost human. Figuring that a change might bring good luck, Bozo and I came over here."

"At this very spot," the Judge continued, "Bozo started making game, going slow, crouching lower each step, and finally dropped flat on the ground which is a sure sign of a red-hot scent with that dog. Talking low and quiet, I came up even with him. Just then, a rabbit jumped out of that clump of bushes a few yards in front of Bozo. Sort of accusing Bozo of pointing a rabbit, I lowered my gun from the alert position and carelessly took several steps forward, not noticing that Bozo remained on point, motionless, flat on the ground. Unexpectedly, two woodcock flushed almost under my feet, one straight away and the other to my right. Surprised and off-guard, I shot at one and then the other. Although I had missed much easier shots over on Yellow Creek, down went both woodcock, giving me a double, which is a rare feat, especially on woodcock. That double, old timer, ought to sort of make up for that rabbit I just missed."

Fifty yards farther on, Bozo began to make game, his tail thrashing back and forward, strain and repressed tension marking his every movement. Showing fine workmanlike caution, the dog, with slow-stepping efficiency, reduced the location of the bird within an ever-narrowing area, finally stiffening into a beautiful point, his body like a statue, tail straight as a poker, quivering nose extended toward the bird, and the right front leg raised and bent gracefully, a magnificent and thrilling performance.

The Judge, gripped by one of the most dramatic moments of bird hunting, called guardedly: "Be on the alert, Gib. Bozo's on point. I think it's a grouse. Move quietly into that open space so you'll have a clear

(Continued on Page 30)



"I shot it!"

ONCE you have made the decision to buy yourself a sporting dog, there arises the question, Where shall I go to buy the said "pooch"? Would it be better to drive over to such and such a kennel; should I write to this or that advertiser in this or that magazine or paper, or, would we get a better "bargain" from Mike—the man who has a litter of puppies for sale?

Be careful of that word "Bargain" and just as careful of the breeder or kennel. I cannot emphasize this too strongly.

The "Missus" having an idea in the back of her mind of getting a new hat or a new rug for the front room, may say about this time, "Mrs. Neighbor told me yesterday that Mr. So and So of the Canine Kennel would not sell a puppy for less than \$35.00 and I think that is too much for a puppy."

Poppa may have his mind set on a nice English Setter, Pointer or Beagle, happens to think of that long way off next winter coal bill and a possible layoff at the factory or office, allows that the missus is about right.

However, Sonny, who has been doing a bit of scouting around speaks up and says, "Pop, you know Bobby Smith's daddy went to a place over on Pinesap street and got a puppy for \$15.00 but he only had it a short time and the puppy got sick and died. Bob's daddy paid the veterinary \$6.00 for medicine so now they are out \$21.00 and haven't any pup either. Bob and his dad went back to the place they bought the pup but the man didn't want to replace it. He said it was alright when he sold it. Besides, he couldn't replace it as his puppies were all sold and he wouldn't have any more until next year. Bob's dad says next time he buys a puppy he is going to an established reliable kennel or breeder even if he does have to pay more.

So the arguments ran during a week until next week-end when Dad got out the old flivver and taking the Missus and Sonny along for the ride, they started puppy hunting. Finally they came to Mr. So and So's Sporting Dog Kennel. There they were shown a nice kennel of about 18 dogs. Mr. S-S showed them his sires and his matrons and several litters of puppies of different ages. They were convinced that while the kennel was not large it was clean and well cared-for. The dogs were in good flesh with glossy coats, clear sparkling eyes and every dog full of pep, showing that they were in the best of health.

On selecting a puppy and inquiring about its pedigree or breeding they were told in a clear, concise and fair way all about it. Many practical helps on caring for a puppy which Mr. S-S had gained through practical experience was given. On being asked what sort of a guarantee he gave with his puppies, they were told frankly that he did not sell puppies unless they were in perfect condition so far as could be determined, but, should a puppy develop distemper in less than the minimum number of days he would replace the puppy free of charge. Thus the conversation went along, Mr. S-S giving much valuable advice on breeding, training, feeding and many other points of interest to any prospective dog owner . . . but still they were not quite satisfied to pay the \$35.00 asked for the puppy when one of the same breed could be had for \$15.00 . . . so they climb in the car and drive elsewhere to look over some more puppies.

On arrival, they find a kennel that is not any too clean, the runs dirty, with old bones

YOUR DOG



Where to Buy a Sporting Dog

BY

"DAVE" FISHER

lying around profusely, the feed pans standing around with flies all about and feed only partly consumed, a bit of dirty stale water in the pans. The dogs themselves showed lack of care, were rough of coat, dull eyed and listless in action. Puppies small for their age and looked as if they did not have proper food. Upon inquiring about the breeding they were told that they were from such and such a strain, the sire owned by a friend of his in a neighboring town, that the dog was a good hunter and "eligible" for registration. That's about all he knew. When asked about the guarantee, they were informed that when they took the puppy home it was their dog regardless of what happened. So after a very unsatisfactory half hour in trying to see what they would get for their \$15.00 they once more took to the flivver and started home. But instead of going home they headed back to Mr. S-S Sportsman's Kennels. Within another hour they were on the way home with a fine puppy and everybody was happy except the man who did not want to bother to raise anything but cheap pups.

This story, while more or less of a fictional nature, describes the situation clearly of the beginner and even the old timers, starting out to buy a dog. The buyer cannot be blamed entirely, as naturally he wants to buy the dog as cheaply as possible. It is hard to convince some people that a setter is not always a setter, that a beagle is not always a beagle, not taking into consideration the important essentials and difference made by proper breeding, feeding and care.

I would like to illustrate a little incident which occurred a short time ago at a reliable kennel. An inquiry was received about puppies, grown dogs and brood matrons. The letter was answered with pictures, data on pedigrees and prices ranging from \$25.00 to \$100.00. About 5 days later back came the pictures, pedigrees with no comment made. The kennel owner immediately wrote this sportsman asking why he had made no comment. If he had bought elsewhere, didn't like the dogs offered or if the price was too high. The kennel owner then received a nice letter in reply, giving the low-down on

the situation, something like this: "I was very much impressed with your dogs, but could not afford to pay the price. I want to get into the bird dog business but had on \$25.00 to spend so went to a couple of places near here and bought a female for \$10.00 and a male for \$15.00 and I am going to raise some puppies."

The gentleman also enclosed a copy of the pedigree on the new dogs he had purchased . . . none of whom were ever heard of and probably not known to very many people. This did not mean of course that they were not good dogs, but judging from the price, etc., you can assume that they were not more than second or third rate dogs. Yet this man proposes to mate these dogs and raise puppies to sell to you. He asked in his letter for advice or hints on the breeding, care, etc., of dogs. This was given to him with the advice to train these two dogs so they would hunt well and then sell them to someone who wanted just a shooting dog and who would not breed them. That by so doing he would probably double his money and then go to a reliable breeder or kennel and then get started with worthwhile foundation stock.

Beagle Field Trials

I have just received word from John Telesky, Secretary that the Bloomsburg Berwick Beagle Club has changed its name to "Susquehanna Valley Beagle Club", the change being approved by the Board of the American Kennel Club.

Permission has been granted to run a sanctioned field trial on October 15 at "Two Hills" between Bloomsburg and Danville where over 400 acres are available which are heavily stocked with bunnies.

The judges will be Myron Moyer and H. Smith. The 13 and 15 inch class will be combined with AKC ribbons going to the winners. Arrows will direct you to the ground where refreshments will be served. Entry will be accepted now and also on the ground at the day of the trial, the fee being \$1.00 at the running to start at 8:00 A. M.

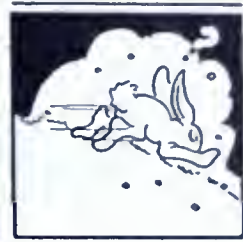
The Keystone Setter and Pointer Club, Reading, Pa., will hold its "Annual Berks County Championship Dog Stake" on Sunday, October 29. The event is open to all dogs and handlers living within the confines of Berks County. The trials will take place on the Keystone Setter and Pointer Club's spacious, leased tract at "Sports Acres," 5 miles north of Reading and about one and one-half miles west of West Leesport.

The dogs will be judged by competent men and the large and beautiful trophy, presented by the "Berks Kennel Club", will again be the major attraction. This large silver trophy, a leg trophy, has to be won three times by the same owner, not necessarily the same dog, to become a permanent possession. There will also be large permanent trophies awarded to the three first place dogs. As the entry is limited to forty dogs, it would be well to mail yours early to J. Elwood Hollenbach, Secretary, 837 Penn Ave., Wyomissing, Pa., or telephone acceptance: Reading 45467.

Drawings will be held at the Berkshire Hotel, Reading, on Saturday night, October 28, preceding the running. After 8 P. M. that night, phone Berkshire Hotel, Reading 521. Everybody welcome. There will be plenty of lunch and refreshments.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

GAME PROTECTORS ENTERING PRIVATE LAND

Q. Is a Deputy Warden or any kind of a Game Protector allowed to trespass on private posted property without permission of the landowner, and is he allowed to trespass and make an arrest without the permission of the owner and without a sworn warrant?

N.P.—Monongahela, Pa.

A. The present Game Law gives a Game Protector or Deputy Game Protector the right to enforce laws relating to game and other wild birds and wild animals throughout entire Pennsylvania, and to go upon any property outside of buildings, posted or otherwise, in the performance of his duties. A Game Protector does not require the permission of a private landowner to enter upon his property in the performance of his official duties, and he may make an arrest thereon without the landowner's consent, but his authority as a State officer does not give him the right to hunt or trap on private property contrary to the wishes of the landowner. To do so, he should first obtain specific permission of the person in charge, the same as any other sportsman.

* * *

PURCHASING A HUNTER'S LICENSE

Q. Does a resident of Pennsylvania living in the City of Philadelphia have to buy his hunting license in that City, or may he buy it anywhere in the State?

G.M.D.—Columbiana, Ohio.

A. Regardless of your residence, you may purchase a hunter's license anywhere in Pennsylvania that you desire. It is not necessary to buy it in the City of Philadelphia by reason of the fact that one makes his home there. All hunter's licenses cover a State-wide hunting privilege, regardless of where they are obtained. We recommend, however, that wherever possible, a hunter purchase his license from his own home community.

* * *

JUNE BERRY TREES ATTACKED

Q. Please answer this question in "Sportsmen's Queries". One day we went to our cabin and saw all the June Berry trees broken down. What broke them?

B.R.G.C.—Swoyersville, Pa.

A. Bears were no doubt responsible for this. We find that Bruin is very fond of June Berries and it is a common occurrence for him to climb the trees and break down the branches in order to reach the berries and consume them.

SHOOTING DEER FROM A TREE

Q. Is it unlawful to shoot a deer from a tree?

R.M.—Bethlehem, Pa.

A. There is nothing in the present Game Law to prohibit a hunter from climbing a tree and killing a legal deer in season from that position. It is unlawful to shoot deer at a salt lick or while taking refuge in a body of water, but under any other reasonable condition, we see no objection to killing a deer from a tree.

* * *

BOYS HUNTING WITH .22 CALIBRE RIFLE

Q. I would like to know how old you have to be to carry a .22 rifle if you have a hunting license.

R.B.C.—Lederach, Pa.

A. It is possible under the present Game Law to purchase a hunter's license at the age of 12 years and use a .22 calibre rifle or other legal firearm for hunting purposes, providing you present a written request from your father or mother when applying for the license. Between the ages of 12 and 14, one must be accompanied by a parent or guardian or some other member of his family 21 years of age or older, while hunting. Between the ages of 14 and 16, one must be accompanied, while hunting with firearms, by an adult person at least 21 years of age, not necessarily a member of the family. Beyond 16 years of age, he need not be accompanied by any person while using a rifle or other firearm for hunting purposes. We assume it is the intent of the law that one should be at least 12 years of age before attempting to carry a .22 rifle on hunting trips. In hunting deer or bear, the use of a rimfire cartridge of .22 or .25 calibre is illegal.

* * *

SHOWING TAX RECEIPT FOR HUNTER'S LICENSE

Q. Must a hunter show a tax receipt before he can obtain a hunter's license? Last season this was worked on a good many people and stopped a lot of them from procuring a license.

F.L.B.—Union City, Pa.

A. The Game Law does not specifically require an applicant for a hunter's license to show a tax receipt. It requires him to establish his identity to the satisfaction of the authority issuing the license, by producing a bank book, letters, lodge cards, police cards, a motor vehicle driver's license or some other positive means of identification. However, a tax receipt would be an acceptable form of identification.

TARGET SHOOTING AT HOME

Q. To abide by the law, a person may not discharge a firearm within a certain distance of a house, barn or other outbuilding. May I shoot at targets with my rifle in my back yard against a solid backstop? I live within 100 yards of my neighbor but he is not in line with my shooting.

H.W.S.—Mohnton, Pa.

A. Under the Game Law, it is unlawful for any person while hunting or trapping for wild birds or wild animals to discharge a gun within 150 yards of any occupied building without the specific permission of the owner or tenant of same. This, however, will not apply to target shooting unless it is done in connection with the hunting of wild birds or animals. It is unlawful to discharge firearms within city or borough limits, but if you live in the country, we see no objection to shooting at targets in the rear of your home, providing you exercise every precaution to see that the bullets do not do any damage to your neighbor's person or property.

* * *

TRAINING DOGS WHILE CARRYING FIREARMS

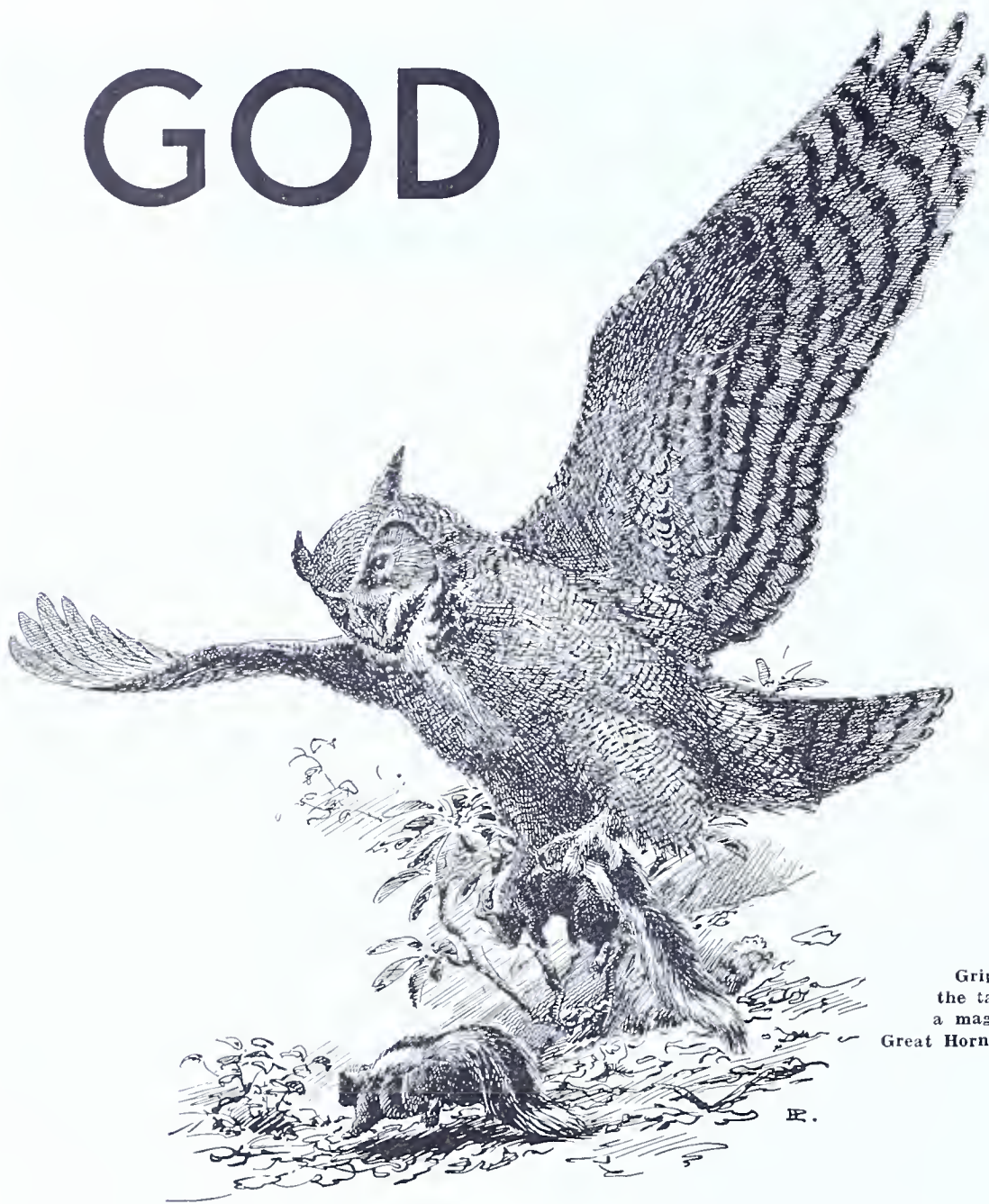
Q. I have a young English Setter which I am anxious to begin to train. Under the Game Law, is it permissible to carry a loaded shotgun in the woods while training a dog during the training season? If not, would it be permissible if the shot pellets were extracted from all the shells in one's possession at the time? I am anxious to prevent my dog from becoming gun-shy.

J.H.L.—Moosic, Pa.

A. Sorry, but the Game Law does not permit a person training a bird dog or hound to carry a shotgun or rifle while doing so, even though the shotgun be loaded with blank shells. The law states that no firearms usually raised at arm's length and fired from the shoulder may be carried while training dogs, nor may any injury be inflicted upon the birds or animals being pursued. I suggest you carry a pistol and discharge it at appropriate times in order to train the dog against becoming gun-shy. You may carry a pistol for dog training by registering it with your County Treasurer for a fee of fifteen cents, and showing him a hunter's license for the current year.

GOD

OF THE WILDERNESS



Gripped in
the talons of
a magnificent
Great Horned Owl.

OUT in the deep of night, far below the granite face of ancient Mt. Pocono, across the miles of tree-filled valleys and hills, modern civilization was droning peaceably on, quite as if strife was non-existent in the world. And yet here was a primeval battle, a battle as old as life itself, and from which death for one of the combatants was almost inevitable. Skunks are generally considered as gentle animals, but these were skunks, and were anything but gentle. They fought a fight familiar in the eyes of Nature and in the eyes of the female of the species, who in this case sat quietly by and waited. Before dawn the battle had ended, one beautiful male skunk lay lifeless in a pool of blood, and a new life, for which the old had been sacrificed, was conceived.

Black Night, thus conceived, fought life alone six weeks after birth. Already, he was scarred by experience. He had seen his brothers gripped in the talons of a magnificent great-horned owl and lifted forever into the void. He had seen his mother crushed by rocks; crushed as her teeth had sunk desperately into long-hunted food. He had heard the mashing of her bones and flesh, had seen the life blood gush from her. She was legal prey of a deadfall, though Black Night, the dumb beast, could not know. But these scenes were lessons—hard, cruel lessons in the school of the wild, where the sole

text-book taught the eternal struggle for existence.

Alone, self-reliant, Black Night wrested a living from his lonely, tree-templed home. He survived. To the wild, this is to live. Wild children have no ambitions, censorships, ideals, morals; theirs is an unvarnished tale of love and war—life is openhanded, frank, brutal. To survive! It means to fight. Life is a fang and clawed fight to them. They end the lives of other animals that they might live. The beautiful forest harbors this war; it is a primeval battleground. Nature has a set of cruel commandments.

The young skunk faced constant hardship his first year of life. His first winter was a cruel trial. Relentless sleet storms pounded the forests. Blanket after blanket of snow dropped over his home. Food was scarce—and more bitter still, for weeks at a time there was no food. Adult skunks had feasted well in fall, and accumulated fat saw them through without great suffering, but it was an ordeal for the infant Black Night. He ventured outside his den many times, fighting his way through several feet of snow to gain the outside world. But each time he was wrapped in a vast, howling world of abysmal black and grey; a foodless and desolate world. Even the trees were pitiful, standing as silent, suffering beings, their frost bitten arms trembling in the murky

sky. He returned to his burrow, spent an nearer starvation. At long last he found and killed a half starved squirrel, whose flesh strengthened him and pulled him through.

That first winter the Pocono mountains were unfriendly. They stood a white, unyielding silence, an undulating desert of snow. Snow threw a trance over the forested hills. White ribboned, hungry looking rock caps seemed to wince their granite faces in mortal pain. About them, slept the trees and plants. Of life there was little sign—lone-hunting weasel or wildcat; hunger-driven hares, shivering coveys of quail and ruffed grouse, downy woodpeckers or high-soaring crows; and by the smothered lake and streams, savagely active mink and energetic beavers. The deer wintered in the Long Swamp and presented a pitiful circle of skinny, stark-eyed beasts. Every twig in their midst was bark-amputated.

Spring awakened the sleeping mountains; forests and wildlife alike danced with life. The trees snapped with revived energy and the sap was almost visible as it shot back into the blood-starved limbs. The air was alive with the songs of birds. Plant life peeped welcome to the brilliant sun. Timber rattlers moved to their summer feeding and basking grounds. The Bushkill fought loose its long ice imprisonment and lashed and rocked a trembling path to the Delaware.

Black Night hailed the advent of spring with long hunting trips. His first night's journey resulted in several quail carcasses that were a grim hangover of winter. Late hunts scoured the rodent-infested rock-bluffs. He traveled and hunted leisurely; food was plentiful and the weather kind.

He never feared lack of shelter. He had no home den or series of dens. He traveled far without thought of shelter, lured only by food, and near daylight he hunted a deer to sleep away the day. Instinct guided him to protected havens. He used the dens those before him had used.

One night he witnessed another tragic battle of the wilderness. It was in the swamp. He was attracted by the terrified squeals of a muskrat. His curiosity was aroused. His eyes cut the deep shadows. Ten or so feet away, a battle was smothered in the darkness. Two animals struggled. They were in a desperate, clawing mass. As they separated tense and cautious, the hate of natural enemies spit from their battle-lighted eyes. The attacker was a half-grown mink, fiendish, eel-bodied devil of the forest; his victim was a muskrat, a mother muskrat, who defended her young. The muskrat was doomed—already blood dripped from her eyes and nose, and gastly entrails dragged from a wound beneath her stomach. But she fought on, facing with the grim tenacity of the wild the inevitable end, never hesitating to defend her young to the last.

By JACK ANDERSON

Editor's Note: We welcome a new writer into our fold who is to be congratulated upon the delightfully graphic manner in which he makes his animal subject live. A fine story to read the children at bedtime.

Illustrated by Earl Poole

The mink lashed again and again with his savage claws, and finally, with a terrible squeal, leaped and clamped his teeth to the neck of his victim. Blood dripped down the sides of his greedy jaws as he sucked his fill. The muskrat lay still, with the pathetic patience of a wild creature awaiting the last breath, and slowly her muscles relaxed, and the fire faded from her eyes. Blood gurgled and rasped in her throat. Soon, the mink ceased his vampirish work, stood on his hind feet, with his greedy slender head pointed to the peaceful sky; then he darted noiselessly into the muddy hole along the creek bank, where the tiny muskrats lay. The world about was silent except for the low complaint of the stream that drained from the swamp.

Black Night continued on his way. He would gain no meal out of the fight. The mink would return shortly to finish his repast. He left the vicinity of the stream and climbed the star-lit, moss-covered banks toward the rock-bluff.

Black Night had not gained use of his important weapon until late Spring. He had tried to use it often during his many rages, without success, but his guiding conscience told him that it was there. His first use of it came one night in the swamp, during his first encounter with a dog.

He had heard the bark of dogs several times before. Usually, the bark rose out of the swamp-top plateau, so that he had fixed the bark as belonging to that spot. When the bark rose from his hunting ground, it terrified him, and he sensed that the owner of the vicious voice was a deadly enemy. He attempted to escape but the bark persisted on his trail, sounding closer and closer. Trapped finally in a corner of shelving rock, he prepared to stand. He stamped his feet and growled, the fight-light of an animal ready to defend his life blazing from his eyes. As the dog appeared, greater terror seized him. The dog was a yelping green-eyed monster whose tongue lapped in savage anticipation across his jaws.

Black Night's hair electrified, quickly, he turned the rear part of his body and his excited muscles went into play. He quivered as the hideous scent spit from the sacs beneath his tail. His action was instinct, centuries deep. The dog halted in his tracks and shrieked in pain. He staggered back through the underbrush, blinded and choked by the powerful fluid. And human voices rose from the swamp: "Get out of here, Bess!" "Darn that fool of a dog!" . . . Black Night, safely assured of his powers, strolled unconcernedly on his way, unmoved by the victory. The battle was already forgotten in his consciousness; but deep hidden in the unconscious that all animals possess was a mark of experience that would have lasting effect on his life and would sharpen the instincts of those to follow him on the trails.

Came autumn, majestic standard-bearer of cold. The forest chorused with high winds and rustling leaves. The laurel was in fiery dress. Microscopic shadows flitted incessantly across the sun-drenched forest roof as myriads of birds winged south. Amber colored streams mirrored a cloudless sky. Trees swayed in continuation of their wind-dance that was aeons old.

Black Night hunted still nearly every night. He loved especially the foggy nights when a damp, misty hand silenced the voice of the scurrying leaves. He tramped swamps and highlands, ridges and valleys, followed tiny tributaries and turbulent forest streams. He hunted woods-mice, chipmunks, squirrels. Along wind-swept Mt. Pocono ridge unwary jack-rabbits or cottontails were his prey. He was a tireless hunter. His enemies were few. His life became a long, happy hunt. His environment became so familiar that each night he visited countless dens and came to know favorite hideouts of his choicest meals.

He rarely visited the swamp-top farm house which was the nearest civilization. He learned that here was a dangerous spot—the home of vicious, barking dogs. Dogs were enemies. They were to be avoided. On a rare visit to swamp-top he found only scraps of strange-tasting meat, and because of the dogs he was unable to eat these scraps without dragging them into the brush.

Black Night sensed that it had become much colder. He was on a nightly forage. The wind howled and moaned through the darkness and the forest was alive with scraping leaves and clicking arms of trees. He headed for the swamp. After a while, the wild-moaning blackness seemed to grow less intense; out of the abyss of night crystal flakes appeared. The terrible white! The ghost-blanket that had caused him acute misery the winter past! Frightened somewhat, as if this strange brightness predicated the nearness of dawn, Black Night headed instinctively for the rock-bluff, a network of favorite dens.

The bluff was a screaming nightmare of black and white. The wind tore at the young skunk, whipped inside his furry coat, bit at his flesh. He wandered down out of this fury, between two shelves of rock, only sev-

eral feet below the entrance to a den. A sharp pain struck in his leg. Instinctively, he halted, raised his tail on guard; and every muscle was alert. All was quiet—all else but the screaming wind and gently-patting snowflakes, which were but a part of his world-noises. He backed away, feeling something heavy and sharp clinging to his leg. Free movement was impossible. He was imprisoned; a strange enemy clung to him. He wrenched himself, trying to twist free. What sort of enemy was this? As he struggled, his captor rattled and grated along the rocks. He smelled curiously about him, now quite calm. But he smelled his captor. **Man!**

Black Night was not in great pain. He growled and twisted and bit in a frantic struggle to tear loose from his captor. His was a hopeless struggle—how hopeless he could not know. He fought on in the darkness, pulling and clawing and lunging savagely for freedom. As he battled, his pain increased. His leg swelled. Each time he pulled a terrible pain knifed up his leg. The pain stilled him. He began lapping the blood from his mangled foot to appease the pain. He could not fathom the great strength of his master. He fought and whimpered, alternately. About him, the white dripped endlessly on, drowning out the deep purple-black of his fur. He suffered patiently, held by man, battered by the cold, numbed by the strange white silence.

Dawn disclosed a leaden sky. Black Night lay helpless in his trap. His eyes roamed questioningly about him, as if for answer to his problem. He was not afraid, but weak and bewildered. His leg hung limp in the blood-stained snow behind him.

Soon, voices lifted from the swamp. The voices became more and more distinct, sounding hollow from out the timbered depths. Black Night lifted his head to the ever-revealing wind. He smelled Man! Man, whose hated scent he had detected on the strange rattling demon that held him! He wriggled painfully in the blood-splashed nest he had burrowed in the snow.

Two trappers slid down the shelf of rock to where their quarry struggled. They were bearded, wild-looking. Satisfaction gleamed

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Clamped his teeth into the neck of his victim.

Fall and Winter Food Habits of the Marsh Hawk

By PIERCE E. RANDALL

ONE phase of the management study of the ringneck pheasant (*Phasianus colchicus torquatus* Gmelin) in Pennsylvania is to determine the relationships of raptors to the pheasant populations. This investigation is being conducted on an 1,675-acre sample tract in Lehigh County in southeastern Pennsylvania. The area is typical of the best pheasant range in the State. Marsh hawks (*Circus hudsonius* Linnaeus) are common in this section of the Commonwealth. Throughout the fall and winter, 5 to 10 of these hawks were seen regularly on the area. Some individuals may be year-round residents, as some of the hawks roosted continuously in the same field from August until spring.

The study area is located in very fertile agricultural land. The principal crops are corn, wheat, oats, potatoes, and alfalfa. Although the topography is rolling, with two streams flowing across the area, marshes or swales are absent. The dense growth of weeds—such as lesser ragweed (*Ambrosia artemisiifolia*), yellow foxtail (*Setaria glauca*), barnyard grass (*Echinochloa crusgalli*), and many others—occurring in the grain stubblefields furnished excellent roosting cover for the marsh hawks. These weedy stubblefields were utilized as roosting places by the hawks throughout the entire winter.

This paper presents the information secured on the food habits of the marsh hawk from September 1, 1938, to April 1, 1939. This work was done under the supervision of Dr. Logan J. Bennett, Biologist, U. S. Bureau of Biological Survey, and Dr. P. F. English, Assistant Professor, Department of Zoology and Entomology, Pennsylvania State College.

Pellets (figure 1) were collected weekly from the roosts in the stubblefields. Marsh hawks' pellets yield fairly good quantitative data, especially in fall and early winter. In the present study the technique described by Errington (1932) was followed, and only bones were used in the determination of the numbers of prey.

The data contained in this article are divided into three periods—early fall, late fall, and winter. Early fall includes the month of September; late fall, the period from October 1 to November 23; and winter, from November 24 to April 1. November 24 was selected as the beginning of the winter season because on that date the first heavy snowfall occurred. Three hundred and one pellets were collected during the fall and winter and they contained 385 items of prey.

Table 1 presents a summary of the early fall foods of the marsh hawk; table 2, the late fall foods; and table 3, the winter foods.

TABLE 1.—Early Fall Foods
(Based on examination of 60 pellets)

Kind of prey	Number of individuals	Percent of total
Mice (<i>Microtus</i> , <i>Peromyscus</i> , <i>Pitymys</i> , <i>Zapus</i>)	64	73.6
Shrew (<i>Blarina</i> sp.)	1	1.2
Cottontail (<i>Sylvilagus</i> sp.)	1	1.2
Skunk (<i>Mephitis nigra</i>)	1	1.2
Unidentified mammal	1	1.2
Birds—mostly songbirds	19	21.8
TOTAL	87	100.2

TABLE 2.—Late fall foods
(Based on examination of 85 pellets)

Kind of prey	Number of individuals	Percent of total
Mice (<i>Microtus</i> , <i>Peromyscus</i> , <i>Pitymys</i>)	89	83.2
Shrew (<i>Sorex</i> sp.)	1	0.9
Cottontails (<i>Sylvilagus</i> sp.)	2	1.9
Red squirrel (<i>Sciurus hudsonicus</i>)	1	0.9
House cat (<i>Felis domestica</i>)	1	0.9
Birds—mostly songbirds	13	12.2
TOTAL	107	100.0

TABLE 3.—Winter foods
(Based on examination of 156 pellets)

Kind of prey	Number of individuals	Percent of total
Mice (<i>Microtus</i> , <i>Peromyscus</i> , <i>Pitymys</i>)	159	83.2
Shrew (<i>Blarina</i> sp.)	1	0.5
Cottontails (<i>Sylvilagus</i> sp.)	9	4.7
Weasels (<i>Mustela</i> sp.)	3	1.6
Muskrat (<i>Ondatra zibethica zibethica</i>)	1	0.5
Unidentified mammal	1	0.5
Frog (<i>Rana</i> sp.)	1	0.5
Birds—mostly songbirds	15	7.9
Insects	1	0.5
TOTAL	191	99.9

TABLE 4.—Foods during period of deep snow

Items of prey	Number of individuals	Percent of total
Mice	42	75.0
Cottontails	5	8.9
Muskrat	1	1.8
Weasel	1	1.8
Songbirds	7	12.5
TOTAL	56	100.0

Approximately 75 percent of the early fall food of the marsh hawk consisted of animals not beneficial to man. In late fall the non-beneficial species made up 84.1 per cent of the total items of food, and in winter they made up 84.8 percent.

Mice formed the major portion of the food of the marsh hawks during the period discussed in this article. These rodents were taken in slightly greater numbers in late fall and winter than during the early fall. This is to be expected since other prey species were more common in the early fall. At least 261 of the 322 mice found in this series of pellets were *Microtus pennsylvanicus*. Other mice included 17 *Peromyscus* sp., 15 *Pitymys pinetorum*, 1 *Zapus hudsonius* and 10 unidentified mice.

Certain of the other mammals represented in the pellets, such as skunk (*Mephitis nigra*), domestic cat (*Felis domestica*), and muskrat (*Ondatra zibethica zibethica*), were probably either carrion or were secured from traps. A weakclawed raptor such as the marsh hawk would have considerable difficulty in capturing a healthy specimen of any of these three species. It is also believed that some of the cottontails represented carrion, since a marsh hawk was observed feeding on a cottontail that had been killed by an automobile.

As might be expected, more songbirds were taken in the early fall than in the colder months. The percentage of songbirds in the marsh hawk's diet dropped from 21.8 percent in early fall to 12.2 percent in late fall and to 7.9 percent in winter. Birds definitely identified in the pellets included 14 flickers (*Colaptes auratus*), 7 eastern song sparrows (*Melospiza melodia*), 2 eastern tree sparrows (*Spizella arborea*), and 1 junco (*Junco hyemalis*). Twenty-three songbirds occurring in the pellets could not be identified to species.

Weather, through its effects upon the availability of prey species, influenced the diet of the marsh hawk. Thirty-six pellets collected over a period of 10 days in early winter, during which time the ground was covered with more than a foot of snow, yielded interesting information on this factor (table 4). Five of the nine cottontails represented in the winter pellets were found in this group, although these pellets constituted less than one-fourth the total number of winter pellets. During the snowy weather, the remains of songbirds were found in 12.5 percent of the pellets. The deep snow apparently made mice less available for food, thus the hungry marsh hawks utilized cottontails and songbirds for food.

Considering the available facts, it is apparent that small mammals such as mice are the staple item in the winter food of the marsh hawk. Songbirds and carrion were taken in varying amounts, de-

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¹Paper No. 5 from the Pennsylvania Cooperative Wildlife Research Unit, the Pennsylvania State College and the Pennsylvania Game Commission, cooperating with the U. S. Bureau of Biological Survey.

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SIR REYNARD » » THE FOX

By S. V. SEDLAK

WHEN the tranquil green of summer has faded and the foliage of the low growing plant life of the woodlands has taken on its conspicuous fringe of autumnal colors, man responds to that inborn instinct—the call of the wild. He longs to pit his wits against the creatures of the wild.

Typical of the wild creatures in this colorful autumnal setting is the red fox. Of all our other fur-bearing animals it stands out because it embodies the traits so common to all, yet possesses that measure of superiority which elevates it above the rest. It is the inspiration and idol of the man who follows the trapline, and of the fellow who follows the hounds.

The red fox is one of the fastest moving creatures of the woodland. It is built for speed and endurance. This necessary locomotion is intended to enable it to run down its prey; and serves also to help it make a quick get-away, its chief means of self-defense. Its smell and hearing are acute, its sight keen.

The range of the red fox is long and wide, perhaps, twenty or more miles in radius. Being a carnivorous creature its food naturally is very varied.

Then, for comparison, there is the gray fox, the lesser relative, which is smaller in size, shorter in legs, slower in motion. Its ears are small and, no doubt, somewhat less sensitive to hearing. Its nose is smaller too, so we assume that its sense of smell is less acute. Its range is considerably shorter, just a few miles in extent. It is omnivorous and feeds on various fruits and berries, and small bird and mammal life.

The fur of the red fox is beautiful; long, fine and silky. That of the gray fox is not nearly so pretty; it is shorter, coarser and duller. During the last five or six years the average raw pelt of the red fox sold for about four dollars; the average gray pelt brought only a dollar to a dollar and a half. Not so many years ago the red fox pelt sold for twenty dollars and the gray fox was worth five dollars.

Economic conditions have a lot to do with the fur trade. The fashioners of furs tell us what will be in style. Not so many years ago the 'coon skin craze was everywhere and raccoon pelts were in big demand. But last winter a ten-dollar 'coon skin was worth only a dollar and a half; while skunk fur advanced somewhat in price, the average pelt selling for nearly as much as the average 'coon pelt. And now we learn that the squirrel is coming into style; squirrel and rabbit. They are not bought according to size, color and beauty; but generally by the pound at a few cents per. And, just in case you do not know it, the boys of the fine arts are so clever nowadays that they can take an ordinary gray fox pelt and—presto—it comes out a "silver fox".

But gentlemen, the thing of concern among the broad-minded trappers and fox hunters is why our fox has been, during all these years, denied even the least of humanitarian protection; why its economic, esthetic and sporting values have not been duly weighed and recognized.

Most of our eastern states do have laws protecting the fox. In a few of these at least an honest measure of protection is given them. In one state the fox is even classified as a game animal.

From the sporting angle our fox rates as the Number One fur-bearing animal. It possesses that noble rating because it is gifted with an abundance of intelligence, and the man who pursues it, either with trap or dog, must exercise his every faculty against it. Success is the result of understanding, courage, patience and painstaking work. Success



with its due measure of pride comes only when the man who desires to achieve it willfully overpowers the hardships that go with it, so do not kid yourself into believing that the fox game is just a barrel of fun. Yet, in spite of all difficulties and hardships of the chase certain groups of sportsmen are always willing to make sacrifices in exchange for their reward. To them the term "vermin" as was used and "predator" now applied to the fox, is just so much nonsense.

To the fox trapper the sight of a clean cut empty trap bed on any trip over his trapline is a signal for joy.

To the fox hunter it means just as much. The stirring notes of a baying hound in pursuit of a red or gray fox, and a glimpse of the alert, lithesome form of fur with bushy, sweeping tail streaking through the woods is reward indeed for the sportsman fox hunter.

Does not this shrewd creature of the uplands deserve, therefore, at least a fair measure of protection?

Oh, it kills some rabbits, grouse, turkeys; ringneck pheasants and quail. Yes, and it would no doubt kill some of those house pets, alias stray domestic cats which our sentimental, superstitious, timid souls let go in fields and woods if only it could reach them with its sharp-clawed paws. Neither the fox nor the stray house cat has wings, but there is not a living thing in the woods that can outrun a scared cat going up a tree.

Only the most unwary grouse, turkey, pheasant, or quail is clutched by the fox. The rabbit does not have a chance with the fox as long as it hangs around the open too heedlessly, or if it foolishly tries to beat its rival in a marathon down the straight and narrow path, but when Mr. or Mrs. Bunny dives into the briars or brush then there is much in his or her favor.

I wonder if we ever take time to think that the rabbit is our most prolific small game animal; that in the natural order of the wild it is prey for other animals, that even the raccoon preys upon the rabbit?

As a matter of fact, the fox takes only sparingly of the small game population, and it balances the scale because it takes of the multitudinous mouse, rat, snake and other verminous population. To estimate the worth of the fox from this standpoint alone we must be learned in the story of this often misunderstood forest creature.

Just because the stomach contents of the fox shows rabbit or grouse is not conclusive proof against it. Consider the weasel, which from every viewpoint is better adapted to make serious inroads on the rabbit family, and then bear in mind that the weasel is a blood-sucking creature, that its stomach is of a very small size, and that its environment is identical with that of the fox. Consider the hawk, which from every angle is better fitted to prey upon the grouse, and remember that a grouse is considerably more than just one meal for a hawk; then remember also that the hawk plays a prominent part in the environment of the fox. Need more be said?

I am afraid that the gospel some persons preach with regard to old Reynard is nothing more than a "hand-me-down" from generation to generation. It coincides too much with the myth which our grade school children read in the fairy tales. It is obsolete and absurd in principle and in practice.

For example, \$141,750.00 of the Game Fund has been spent from April 15, 1915 to April 1, 1939 on fox fallacies alone. That figure is based as on 20% of the total bounty payments made for both red and gray foxes; i. e. foxes taken during the summer months. On the same basis the average annual waste of money during the past twenty-four years amounted to approximately \$5,907.00; and during the last fiscal year, 1938-39, (less two months) it amounted to approximately \$7,249.60.

So that we may better understand the folly of it all, let us take for comparison another example, perhaps the best on record. First, (Continued on Page 25)



Federal Seasons and Bag Limits on Ducks, Geese, Woodcock, etc.

The Federal Government has decreed another liberal duck season this year, and Pennsylvania hunters will be particularly pleased to learn that they may again hunt woodcock the entire month of October.

Based on investigations by the Biological Survey, the new waterfowl hunting rules include two outstanding changes. The season in the intermediate zone, which includes Pennsylvania, opens on October 22 (since October 22 comes on Sunday the season in Pennsylvania will officially open on Monday the 23rd) instead of October 15 and closes December 5, and the daily bag limit on geese was reduced from 5 to 4 to insure a better margin of safety for the species which apparently did not appear to be in quite as satisfactory condition last year as in the preceding season. Closed seasons throughout the United States and Alaska are continued on Ross's geese, wood ducks and swans.

Other states included in the intermediate zone are California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, including Long Island, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Utah, Washington, West Virginia, and Wyoming.

Because of the interest that has developed in recent years in archery, the regulations were modified to permit taking migratory waterfowl with bow and arrow.

The daily bag limit on ducks is 10 in the aggregate, and the possession limit remains 20 in the aggregate. When any daily limit includes canvasbacks, redheads, buffleheads, and ruddy ducks, not more than 3 of any one, or more than 3 in the aggregate of these kinds may be taken, and possession of these particular kinds of ducks is limited to not more than 6 of any one kind or 6 in the aggregate.

The daily bag limit on geese and brant of the kinds permitted to be killed is 4 in the aggregate of all kinds, and the possession limit is 8 in the aggregate. Last year the limits were 5 daily and 10 in possession.

A transport pilot bringing his air liner down on Allegheny County Airport recently turned good samaritan and saved the lives of a pheasant hen and her dozen chicks. As Capt. W. J. McDonough of Pennsylvania-Central Airlines was preparing to land his ship at the end of a flight from Cleveland,

No more than 2 days' bag limit of lawfully taken and possessed ducks and geese may be transported in one calendar week out of the State in which taken.

The daily bag limit on coots remains at 25.

Waterfowl and coots may be hunted only from 7 A. M. to 4 P. M., E.S.T.

In Pennsylvania snipe, rails, gallinules (other than coots), and woodcock, also protected under the Migratory Bird Treaty Act, may be hunted in season from 7 A. M. to 5 P. M., E.S.T., but in tidal marshes rails and gallinules may be hunted until sunset. **No hunting of any kind before 9 A. M. on November 1.**

The daily bag limit for rails and gallinules, other than soras and coots, is continued at 15 in the aggregate of all kinds. Other bag limits are as follows: Soras, 15; coots, 25; Wilson's snipe, (jacksnipe), 15; and woodcock, 4.

Possession limits for these species at any one time may not exceed the daily bag limit, except that in the case of woodcock the possession limit has been raised to 8.

Woodcock Season

The open season for woodcock in Pennsylvania, Maine, Michigan, Minnesota, New Hampshire, North Dakota, Vermont, and Wisconsin is from October 1 (October 1 coming on Sunday the season in Pennsylvania will officially open on Monday, October 2) to October 31.

Seasons for Rails and Gallinules

The open season for rails and gallinules is from September 1 to November 30, except in the following States, where the seasons are as indicated: Alabama, November 20 to January 31; Louisiana, November 1 to January 31; Massachusetts, New York (including Long Island), and Washington, October 22 to December 5; and Wisconsin, October 1 to November 14.

Coot Season

The season for coots is the same as that for waterfowl.

he spied a pheasant and 12 little pheasants proudly strutting along the runway directly in the path of the plane. By a swift maneuver he veered his plane to another section of the runway and saved the wild fowl.—John Wainauskis, Pittsburgh, Pa.

NOTES FROM THE FIELD

Game Protector, Samuel K. Weigel of Wayne county reports killing a yellow rattler which measured four feet two inches. It had swallowed a rabbit about three-fourths grown.

A large copperhead killed by a prominent Pike county sportsman had eaten a baby mink.

Game Protector, John S. Lohmann of Pike county reports observing a lot of rats swimming around stones in shallow streams, presumably in search of fish. The low water in that section has subjected the fish to all sorts of predators.

"While mowing fire lane at 515-A my men and I were followed by a big doe. She did not appear to be at all afraid, but very curious. She smelled of the car and came within six feet of one of the men while he talked to her. She followed from morning until four o'clock along the main road and up over a very steep hill. Who can account for the ways of the feminine?"—Game Protector Ernest Hunsinger, Potter county.

While mowing out a refuge line recently near Shippensburg, NYA boys found a squirrel's nest in a crabapple tree. The nest had one occupant—a large albino squirrel.—Edward Shaw, Game Protector, Clarion county.

Upon examining the nest of a Sharp-shinned hawk, Deputy Joseph L. Budd, Wayne county, found about a dozen pair of feet, apparently from Flickers.—Maynard R. Miller, Wayne county.

"Guy C. Bartlett recently had a number of sheep injured. One animal was apparently chased into a grapevine thicket and broke its neck. The other day he, two members of his family, and a neighbor saw a doe deer chasing the sheep. She would rush a bunch of them and when she could catch one she would butt it so hard she would knock it down. She would charge one bunch after another knocking them sprawling as fast as she could catch them. This kept up until Mr. Bartlett had time to go to the house for his gun and kill the deer. He called me immediately and reported the matter and upon investigation I find no reason to doubt the story."—L. H. Wood, Game Protector, Tioga county.

"A doe deer with spikes about 2 inches long was killed on the highway on Game Lands 30."—Game Protector Paul Narby, Cameron county.

CURRENT TOPICS

SUGGESTS VISION TEST FOR HUNTERS.

Editor the Pittsburgh Post-Gazette:

In your issue of August 11, I note your timely editorial admonition to those of our sportsmen who are prone to slay or wound human beings in mistake for game.

I hold no brief for the so-called sportsman who, blessed with normal faculties or senses, will heedlessly draw bead upon an object when its identity is less than one hundred per cent certain. However, I am quite satisfied that some of the deaths and injuries suffered are not inflicted by hunters of this type.

It is my sincere belief that every big game hunting season will find many men at large in our forests with vision so impaired as to render them unable to distinguish objects with any degree of certainty and such a person carrying a high velocity rifle is a menace to every hunter who comes within range of his "Big Bertha."

Can it be reasonably maintained that a high powered rifle is less deadly than an automobile or that every person who has the price of a hunting license shall have the right to carry and use such a deadly weapon regardless of physical disability? Every applicant for a license to drive an automobile is subjected to a vision test and I can conceive of no sufficient reason why the hunter's vision should not be similarly examined.

At the 1936 October sessions of our McKean county courts a boy under the age of seventeen years entered a plea of guilty of wounding a human being in mistake for a game animal, namely, a black bear. As he stood before our court for sentence I noticed a peculiar cast in one of his eyes and upon inquiry learned that it was nearly sightless and that the vision of the other eye was greatly impaired. Had this boy's aim been more deadly and the victim killed I am not sure whether he or our loose and dangerous system of indiscriminately issuing hunting licenses would have been more at fault.

This shortcoming in our game laws is not attributable to our game commission but rather to the Legislature which has it in its power to correct by making a vision test mandatory.

A vision test might cause some inconvenience to our officers who issue hunting licenses but if such a precaution should result in the saving of a single human life do you not think it would be worth the bother?

CLAUDE W. SHATTUCK,
District Attorney, McKean County.

"During July Game Lands 31 was visited by a freak electric storm that almost reached a cyclone stage. It travelled from the northwest corner to the southeast corner doing much damage to the trees by twisting off almost every wild black cherry, or tearing it out by the roots. The freak part seemed to be in the fact that almost every tree destroyed was a black cherry, very nearly all of which were full of fruit. Some damage was done to the refuge wire where they were blown across it."—Game Protector Earl E. Smith, Jefferson county.



Unique signs like the above point the way to the Waterfowl Exhibit in the Game Commission's Educational Museum at the Pymatuning.



Scattered here and there over the attractive grounds in the Pymatuning Museum are comfortable rustic chairs and benches made for the Commission by the National Youth Administration, to whom much credit is due.

Minnesota duck hunters and fishermen got a real break this past spring when their state legislature passed a bill regulating the exploitation of wild rice.

Wild rice is an important duck food, and is valuable as cover for game fish. It is also a tasty table food, and as such has become increasingly popular. Marketing of it has provided keen competition, and resulted in a process where the rice seeds can be picked while green and still be edible.

The result is that fewer rice beds have had the opportunity to re-seed themselves from one year to the next, because rice will re-seed only when it has ripened naturally. Nothing the decimation of the supply, the legislature passed a bill putting the crop under strict control.—Field and Stream, September, 1939.

Beginning September 1, a complete wildlife census and study of existing conditions for potential wildlife increase, will be undertaken as the State's major project for the Federal Aid to Wildlife Restoration program in Oklahoma. The census and accompanying surveys will require approximately one and one-half years, after which it will extend into actual restoration measures, although the present project is being drawn up for only the remaining 10 months of the (1940) fiscal year.

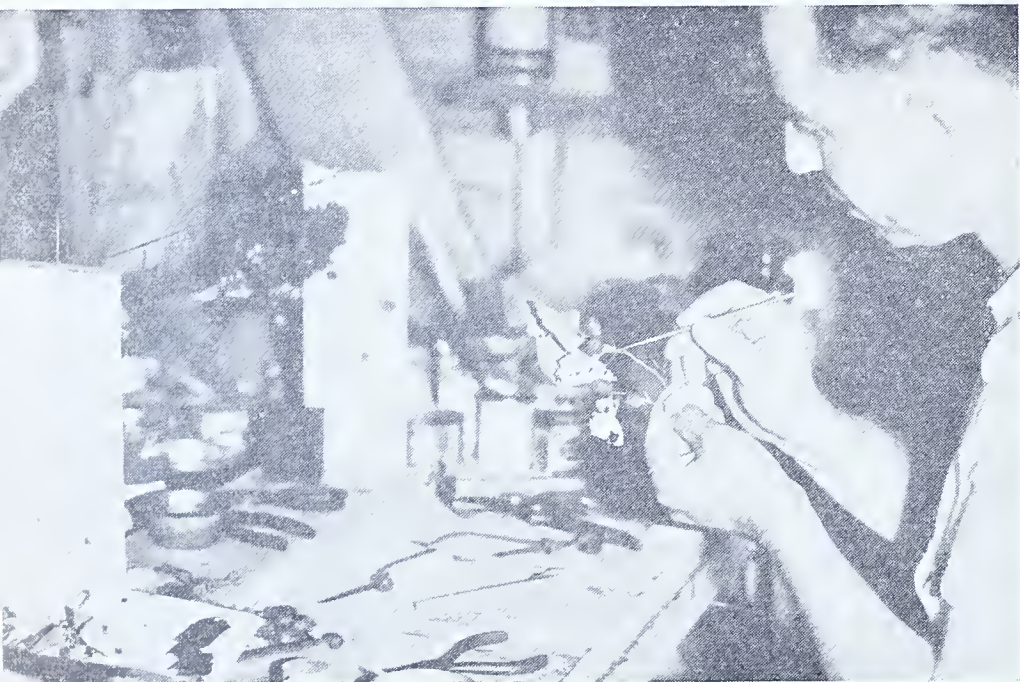
The project calls for the addition of two field biologists and two assistant biologists to the Department personnel, salaries and travel expenses of whom will be paid from Federal funds, according to Lyle F. Selko, the Department's wildlife technician, who drew up the proposal.



Education

One of the most interesting phases of the program is the preparation of many of the most interesting work is done by George Koehler, Lycoming County. Almost every tree and shrub is gathered while ripe and brought to the shop to dry. Immediately thereafter berries caliper them to exact size and respect exactly like the original. He selects the right color effects. When completed they are placed in display boxes including blossoms, etc. The exhibits will be placed in schools, farm groups, Boy and Girl Scout organizations interested in wildlife.

Mr. Koehler also maintains a collection of the right of center, which cleans and removes the flesh off of them. Protector Koehler also has a collection of various animal skulls which are used for exhibit. A large portion of this work is done during regular periods he works on the sides, including the various WPA projects and builds the Commission display at the Farm Show, etc.

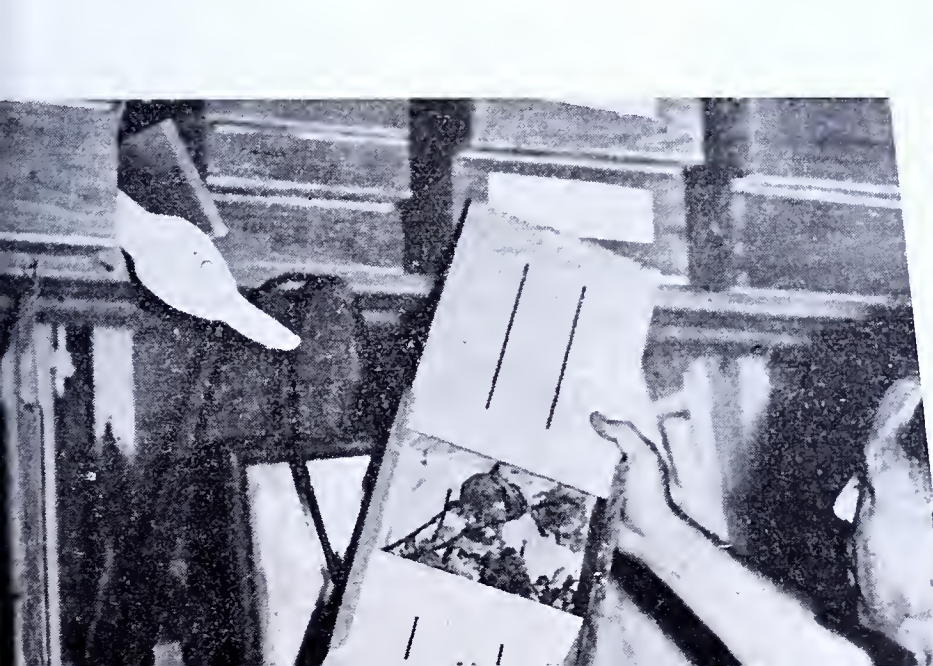




Exhibits

of the Commission's educational
game food display cases. This in-
Koehler, Game Protector from
divable type of food bearing tree
protector Koehler and hung in his
begins work on the various ber-
at his artificial product is in every
extremely clever in getting just
ed the series of food bearers are
bark, the leaves, the berries,
played before sportsmen's asso-
outs, schools and other organiza-

t colony, as seen in the picture to
small animal skulls by eating the
s a great collection of deer antlers
form a part of his interesting ex-
carried on in Mr. Koehler's spare
ages the refuge on which he re-
acts thereon, and in the fall months
major exhibits such as the annual



CURRENT TOPICS

PYMATUNING POPULAR

Proof of the popularity of the Pymatuning Bird Sanctuary and Museum near Linesville, Crawford county is evidenced by the fact that in one week over 2,000 people registered during August.

The register included persons from many other states namely, Ohio, California, Illinois, West Virginia, Indiana, New Jersey, Michigan, New York, Washington, D. C., North Carolina, Florida, Kentucky, Missouri, Delaware, Wisconsin, Mississippi, Virginia, Texas, Connecticut, Kansas, Maine, Wyoming, Oregon, Oklahoma, Washington, Massachusetts, Nebraska, Arizona, Maryland, South Carolina and Alabama, and such foreign countries as Scotland, Hungary, British Columbia, Puerto Rico, Mexico, Honolulu, Hawaii, Peru, France and Canada.

Field Notes

From the talk I heard prior to the antlerless deer season last year, I came to the conclusion that I had killed my last buck. However there are more showing up this year in my section than for some time and they seem to have larger antlers.—Game Protector John Hopkins, Warren county.

So far this year over 86,000 carp were removed from the spillway at the Pymatuning Waterfowl Refuge by the Fish Commission and stocked elsewhere.—Edward Shaw, Game Protector, Clarion county.

An opossum was found wandering in the second floor corridor of the York Post Office recently.



O. W. Keckler, Blue Ridge Summit, Pa., took the above photos while on a trip, with several friends, to their old hunting grounds in Elk County. They found a doe, which had been shot, about to have a fawn. The animal was very weak and the men gave her water and cared for her but she grew weaker and the local fire warden put the animal out of her misery. The fawn was turned over to the State game farm at Loyalsock.



WHOSE GAME IS IT?

The question of who owns the game in our National Forests—the Federal government or the people of the states in which such forests are located—is nearing a show-down in North Carolina, with the Pisgah Forest deer herd as the ante in the game.

For some years officials administering the Pisgah Forest have been trapping deer from the area—claiming a surplus has existed. The State Department of Conservation and Development has protested that these deer are actually the property of the state and its people, and that, if a surplus exists, the deer should remain in the state, even if removed from the forest area.

Also there have been plenty of fireworks occasioned by public hunts promoted by the government to “thin out” the herd—hunts conducted without consideration of North Carolina’s laws governing bag limits and licenses. All in all, the Department is pretty peeved, and especially so is John D. Chalk, its Commissioner, who contends that the Federal government has only the right to manage the game within the Forest.

Things came to a head last fall when officials of the Department arrested two Forest Service wardens who were trucking a deer out of the state.

The Department reasoned like this: “Those are North Carolina’s deer. They are the sovereign property of the state, held in trust for its people. They are yours to manage so long as they remain within the Forest area. But they must not be removed or destroyed without the consent of the people of this state.”

The Federal government didn’t look at it that way, because they hold the land in fee. They filed civil complaint against Mr. Chalk and other defendants, seeking an injunction to restrain the Department from interfering with their management of the Pisgah game supply, and more particularly, the deer herd. That suit is now pending; it will decide the issue of state game rights, and possibly set a precedent.—Field & Stream, September, 1939.

“While crossing Tussey Mountain about 10 P. M. on August 9, I noticed something struggling around in the weeds along the road side. Upon stopping my truck and investigating same, I found a very small rabbit lying on its side with blood on its throat. The rabbit was still breathing so I laid it on the road and removed my rifle from the truck and stood near the headlights. Within a very short time I noticed a commotion in the grass and then two eyes appeared. I took a bead on the eyes and managed to shoot a weasel through the neck. By the time the weasel was disposed of the rabbit had regained its feet and seemed rather weak, but was able to get around and probably survived. Weasels seem to be multiplying in this section as I have had numerous reports of them being seen along the highways.”—Game Protector Albert Bachman, Bedford county.

CURRENT TOPICS

A SPORTING REQUEST

Real sportsmen will never interfere with another man's sport, hence it is to the careless hunter that the American Legion Pigeon Club directs its humble appeal.

An increasing number of valuable messenger pigeons returning from distant points are being lost enroute and scores of heroic birds have returned to their home lofts suffering from bird shot wounds. Excited trigger fingers are causing considerable damage, as many of the birds being slaughtered have been bred from famous World War pigeons which were returned to our shores after the 1918 Armistice. The Conservation Law guarantees full protection to the Homing Pigeon and only small minority fail to comply with the Legislation adopted to aid our Nation in breeding of intelligent and fast pigeon messengers.

Members of the American Legion Pigeon Club can relate many World War experiences of how the pigeon came through with the message, when all other forms of communication had failed. Oft times many lives were saved, towns and villages captured, scouts and espionage contacts competed and survivors in downed seaplanes were rescued, due to the intelligence of the bird messenger with the capsule strapped to his leg.

Ninety-seven per cent of messages sent were delivered by using birds of selected pedigree for ship to shore messages on travelers and mine sweepers in the vicinity of the British Isles. One pigeon completed 172 active service patrols.

The Smithsonian Institute at Washington displays the stuffed and mounted "Cher Ami" one of the outstanding pigeon heroes of the World War, that was presented the Distinguished Service Cross for carrying messages from the "Lost Battalion" 77th Division and was instrumental in saving the survivors.

Excerpts from War Department records relate the following: 200 miles at sea delivered message in four hours "Down water with engine trouble", 10 miles at sea, although almost drowned flew through and brought assistance"; "Dark night in December, 190 miles at sea, 30 knot wind against him, but he got through and they sent a destroyer"; "Flew through dense fog, seaplane down in water with engine trouble, six men saved in water 12 hours".

"Pigeons in the Great War" by Colonel A. H. Osman should make excellent reading in your hunting cabin and it is our wish that we could supply every hunting and fishing club with a copy.

Great Britain's armed forces used 22,000 pigeons, 150 lofts and 400 pigeons in the last war. Our own expeditionary forces consisted of 6,000 pigeons, 5 mobile lofts, 9 officers and 324 enlisted men. Not one pigeon fancier refused to turn over his birds for war service in 1917-18.

It is the earnest hope of the members of the American Legion Pigeon Club that America will always be at peace with the world and that the huntsman will spare our ever faithful birds to continue their homeward journeys in peace and contentment.

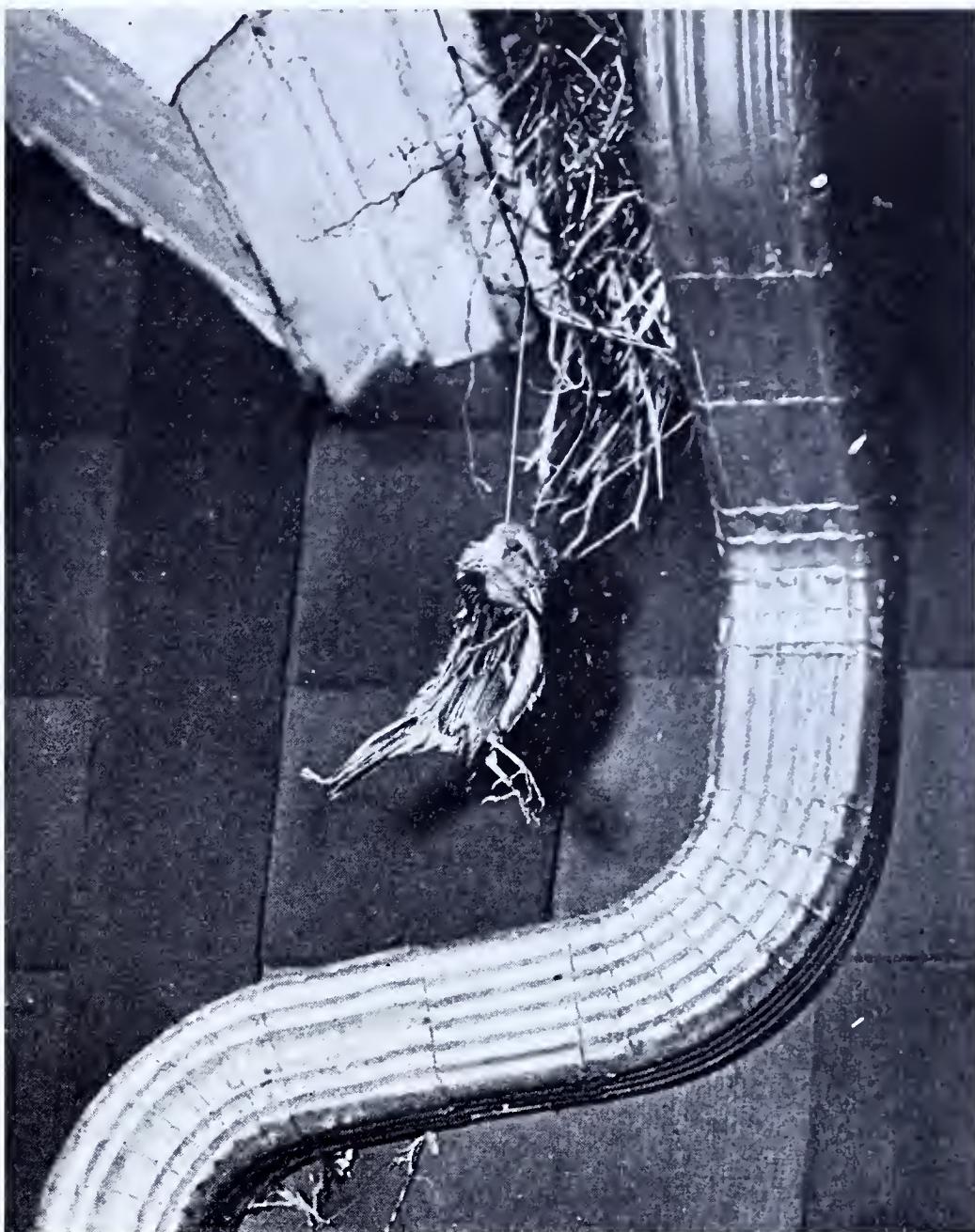


Photo courtesy Chicago Herald and Examiner.

This interesting photograph of a sparrow which hung itself by getting twisted up in a piece of cord string while building its nest was taken by John Pagoria of the above mentioned newspaper.

Many a motor-tourist on the trail out of Stroudsburg knew Gene, the aged black bear owned by Albert Cox, proprietor of an eating stand at Slateford, Monroe county. Brought from Canada as a cub, he had been 16 years the pet of his owner, which is said to be unusual longevity for the species in captivity. Once he attracted the attention of (Believe It Or Not) Ripley, who wrote about him and told of his record on the air. Properly fed and cared for, never allowed 'pop', he had fathered 7 litters, 12 cubs all told. He knew his name, would follow his owner around, had not become ugly-tempered, as often is the case. But the time arrived when feebleness and other evidences of senility made release from infirmities a matter of humane necessity and Cox agreed with Field Agent Diamond of the Pennsylvania S.P.C.A. that Gene must enter that sleep, far longer than winter hibernation. So one day in July, Monroe County Game Inspector, Arthur Frantz and F. V. Decker, Chief of Police, Delaware Water Gap, met Agent Diamond at

a clearing in the woods, to be joined by Cox, leading his old friend forward. He filled a pan with milk, jumped in his car, drove rapidly away. While Gene drank, Frantz put a high-powered rifle against the bear's temple and he died instantly without a struggle. Hearing the shot the deeply affected owner returned, supervised interment under a tall pine-tree.—Miss Curtis Wager-Smith, Publicity Representative S.P.C.A.

This summer the Editor observed more upland plover than for many years; likewise a report from Dr. Herbert H. Beck, of Franklin & Marshall College, Lancaster, who has been making surveys of these birds in Lancaster county for the past forty years, indicates that there was a notable increase in the birds this year in that part of the State. Dr. Beck and the writer observed most birds in the vicinity of airports. They favor the flat field areas surrounding the ports.



JUNIOR CLUB

One of the newest junior sportsmen's clubs to be affiliated with the State Federation was reported recently by John S. Dittmar, Game Protector of Bedford county. The new club is affiliated with the County Federation and is entitled to one vote per delegate. The officers include Dean McGahey, President; Craig Hawley, Vice-president; Richard Mathews, Secretary, and Enoch Hawley, Treasurer. The latter is a member of the senior club. The councilors are Ben F. Oneal and Philip Rank. The members are from three counties including Bedford, Fulton and Huntingdon. The boys got off to a charter membership start of 57 and expect to be very active this coming winter feeding game and building shelters.

The Nesmuk Rod and Gun Club of Wellboro, recently released 400 nine week old pheasants reared from 600 chicks given them by the Game Commission. Several which escaped from the pens are nearby and are in a thriving condition.

W. T. McCarty, Secretary-Treasurer of the Armstrong Kennel Club cites the splendid cooperation received from Game Protector R. H. McKissick in aiding the club to organize and develop. He also reports an interesting incident involving Game Protector McKissick. While McKissick lay in bed on Sunday recuperating from a recent illness he happened to be gazing out of his window. The view included an adjacent field, where he noticed two individuals in the act of "digging out" a groundhog without a license. Mr. McKissick immediately contacted one of his assistants and the violators were apprehended. Mr. McCarty feels that this was not a bad day's work for a convalescent Game Protector.

The association will hold a Field Trial in October featuring an "Open Derby" for dogs not over two years of age. There will be many generous prizes, one of which will be an oil painting of the first-place dog. To the best of the Secretary's knowledge this is the first time such a unique trophy is to be presented.

The Third Annual Picnic of the R.-Field & Stream Association of Lebanon County. Members of the State Federation of Sportsmen's Clubs, will be held Sunday, October 1. The following events will be held: Lebanon County Championship Trap Shoot; Lebanon County Championship Skeet Match; Amateur and Professional Bait Casting Contests; Amateur and Professional Fly Casting Contests; Bench Dog Show for all types of Hunting Dogs; Archery; Games and Refreshments.



Several thousand enthusiastic sportsmen took part in the annual field day of the Consolidated Sportsmen of Lycoming County this year. Almost every known form of outdoor competition was engaged in including trap, skeet, pistol, rifle and muzzle loader shooting; archery; fly, plug and bait casting; bench show for dogs of all breeds, etc. Below is a view of a portion of the large parking area.



WITH THE CLUBS

THE RIGHT SPIRIT

Mr. J. F. Downing, II, of the Erie County Field Trial Association, believes that so-called "bird hunters" spend very little time hunting pheasants. He says, "By that, I don't mean that when our dog comes to a point and an old pheasant rooster jumps out that we don't try to bag him. We do. It is just that most bird hunters, at least in this area, do not make a serious try for pheasants. Everyone approves of stocking them, and they take the pressure off other game, but very few dogs can handle them.

"The point I am trying to make is this: Your rabbit hunter, as a rule, believes that the bird hunter gets most of the ringnecks, while actually the reverse is true. Many believe that your spaniel and hound are far superior to the pointer and setter. At a meeting of our association this spring, in a poll of forty odd members present, the entire group had killed only nine ringnecks the past season. And there are plenty of pheasants in Erie county.

"I believe that if this point were brought out, the rabbit hunter would look more kindly upon the bird dog owner. He would feel more kindly toward bird dog field trials if he understood that the birds are released for his benefit on public game lands.

"In our own case, members of the club agree not to train on areas where pheasants are released during trials until two days after the birds are freed. This gives the birds a chance to accustom themselves to their new environment.

"Don't think I don't appreciate the ringneck. I do, and love him. But if you have a grouse, quail or woodcock dog that doesn't mean that he is a pheasant dog."

On Sunday, August 6, 1939 the Tioga County Consolidated held their first Outing and Field Day at Bradley Wales Park on the west side of Pine Creek Gorge. We think the park deserves space in this article for a brief description. It is located on the west Rim Road about one-half way between Blackwell and Ansonia or about 12 miles from each place. The park served as a farm home for many years for the family of Bradley Wales. During the lumbering days the old switchback from Tiadaghton to Leetonia ran directly through the farm. It is high above and just back of Tiadaghton, the eastern edge being on the rim of the canyon and furnishing a wonderful lookout. The farm was purchased two or three years ago by W. L. Bailey of Wellsboro and is used as a summer lodge and hunting camp. Mr. Bailey, an enthusiast sportsman, gave the county organization the use of the park for their outing. As there are several hundred acres of level and rolling ground, mostly cleared, it is an ideal spot for this type of outing. At the winter meeting of the sportsmen, held in Wellsboro, the idea of an outing was brought up and later committees were appointed to carry out the idea. The Tioga county organization is only three years old and had only a vague idea of what to do. A chairman was appointed for each individ-

Central Pennsylvania Field Trials



Miss Malwyd Nugym, 1st English Setter Novice class, W. H. Hicks owner, J. G. Keys, handler; Mustards Dix, 1st Pointer All age, Dr. E. H. Adams, owner; Shawn of Oak Grove, 1st Irish Setter and Best of Show, Wm. V. Swearingen, owner; Kittredge Rab, English Setter all age, F. C. Rapsey, owner.



Josey, 1st Cocker Spaniel puppy, Mrs. Daniel T. McGill, owner; Sunset Anthony, 1st English Setter puppy, Mrs. W. H. Hicks, owner; Daisies Snap, 1st Springer Spaniel Puppy, W. Amos Konkle, owner; Sarazen of Rolling Rock, 1st Springer Spaniel all age, Dr. R. R. Stake, owner.



Litter of English Setter pups, owned by Mrs. W. H. Hicks.

WITH THE CLUBS



FRANK F. MARSHALL

One of the most popular and active sportsman in the north central part of the State, Frank F. Marshall, Lock Haven, certainly earned that reputation. An ardent hunter and fisherman since early boyhood, he followed the dictates of the true out-doors-man ever since and has been affiliated with numerous sportsmen's associations for over a quarter of a century. For the past seven years he has been President of the Clinton County Sportsmen's Association. He was also head of the County Federation, and is one of the seventeen members of the Board of Directors of the Federation. His appointment as Chairman of the North Central Division of the State Federation of Sportsmen's Clubs early this year established another link in his chain of attainments.

In the course of his conservation career Mr. Marshall was instrumental in establishing a federal fish hatchery at LeMar, in promoting the first mine sealing activities for the West Branch Valley, and in placing the Clinton County association in the forefront as one of the first clubs to establish and operate a game refuge. He also headed the fight against the C. C. C. for cutting out shade from trout streams and preventing silting of spawning beds for trout. He was instrumental in establishing two trout rearing pools and conducted an energetic fight against dog poisoners in that section.

In private life Mr. Marshall is head chemist of the Kistler Leather Company. He is also a member of the American Leather Chemists Association, an exclusive association of which there are only 220 members in the entire country. As a chemist Mr. Marshall spends considerable time helping analyze streams throughout the county to improve fishing conditions.

ual event, this man to work up his own event and appoint his own help.

August 6 came in clear and bright. Warm; yes, but the park is high in the mountains and there is always a breeze. The crowd began to arrive early. By 11:30 the various sports events were going full blast. The Running Deer, Small Bore Rifle, Fly Casting and Horseshoe pitching were open all day. At 2:00 P. M. those present witnessed a fast soft ball game between Westfield and an All Star team picked from the crooked, Marsh Creek League. The Westfield boys proved to fast for the All Stars, defeating them 12-6.

Following the ball game Fox Chase was next in order. Six dogs were entered in this event. The dogs were auctioned off for first, second and third place and the chase took place on the opposite side of a deep gully from the crowd so that all present were able to watch the dogs over the entire course.

Fourteen dogs were entered in the 'Coon chase which was over nearly the same course. By the time the 'Coon chase was over the sun was creeping down toward the western horizon and there were still 98 gate prizes to be awarded. The first of these, a \$10.00 check donated by the Elkland Leather Co., Elkland, was carried away by Mr. Sam Moore of Mansfield. The other prizes, ranging from flash lights to oil, gasoline, groceries and what have you, ended up with a six weeks old pig donated by Joe and Harry Davis, Little Marsh. Merchants from every part of the county took part in the donation of the various prizes.

The prizes for the sports events were carried away as follows: High total points all events went to George W. Cross, Hammersleys Fork. Running Deer—1st prize, Mr. Outman; 2nd place, tie between K. Monks and L. Johnson. Small Bore Rifle—Ferd Dunham, Wellsboro. Fly Casting—1st, J. Harvey, Hammersleys Fork; 2nd T. E. Evans, Mansfield. Horseshoe Pitching—1st Harry H. Root, Wellsboro; 2nd Elmer Smith, Mansfield. Fox Chase—1st dog J. L. Kernan, Hornell, N. Y.; 2nd dog, L. R. Cloos, Middlebury Center; 3rd dog, Clyde McEvan, Blossburg. 'Coon Chase—1st dog, Foster Mase, Liberty; 2nd dog, J. L. Kernan, Hornell, N. Y.; 3rd dog, J. B. Ross, State Game Supervisor, Williamsport.

The committee in charge met in Wellsboro on Tuesday evening, August 8, and at that time it was found that over 2,000 people had attended the outing.

The committee in charge were, Herbert Flook, chairman, Pres. Mansfield Sportsmen's Association; W. S. Stafford, Pres. Morris Rod & Gun Club; Robert Wilson, Pres. Long Run Fish & Game Club; Milan R. Butler, Pres. Asaph Rod & Gun Club; M. S. Dartt, Pres. Nessmuk Rod & Gun Club, Wellsboro; Thomas Kamiski, Pres. Hillside Rod & Gun Club, Blossburg; Herbert Button, Pres. Little-marsh Rod & Gun Club; Ernest Chamberlain, Pres. Sullivan Rod & Gun Club, Mainsburg; Homer D. Austin, Pres. Pine Creek Sportsmen's Association, Gaines; Fred Wilson, Pres.

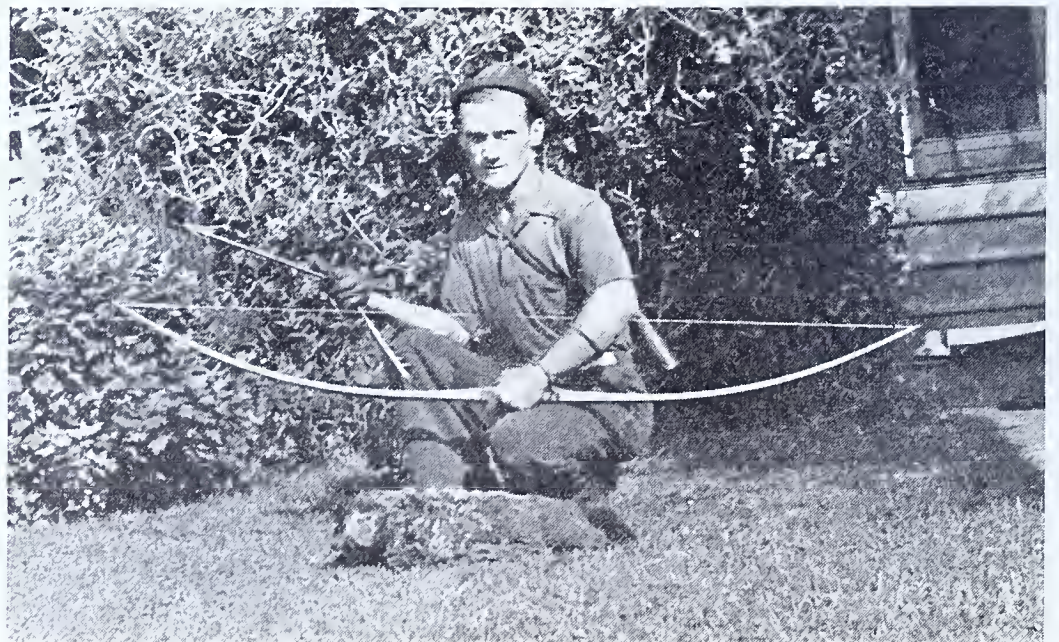
Big Elm Rod & Gun Club, Millerton; R. D. Leonard, Pres. Tioga Rod & Gun Club; Leslie Wood, Game Protector, Wellsboro; Hugh Baker, Game Protector, Asaph; Leland Cloos, Fish Warden, Middlebury Center Clair Rexford, Forester, Gaines; Bert Earl Deputy Game Protector; Cody Roby, Pres. Tioga County Consolidated Sportsmen's Club; and L. S. Moshier, Wellsboro, Publicity chairman.

Tioga County Consolidated Sportsmen were organized in 1937 with only six clubs. At the present time there are 11 clubs in the organization, with about 1500 members.—L. S. Moshier, Publicity.

The Blair County Game, Fish & Forestry Association recently dedicated its new rifle range at the association's lodge seven miles north of Altoona.

The Ambridge District Sportsmen's Association is planning to set up its own trap shooting range in the near future.

Reports of persons being shot in mistake for groundhogs continue to filter in, the latest from Rochester, Pa., where a gas station attendant was wounded in the head by a hunter who claimed he thought he saw a "groundhog" moving about in the bushes. Such careless shooting can ultimately result in only one ultimatum—more drastic penalties for the perpetrator. It may even mean that some day hunters who shoot first and look afterwards may be denied the right to hunt in Pennsylvania for all time. The future rests with each individual hunter. Such a penalty may seem unnecessarily severe, but yet if we curb our enthusiasm long enough to think actual facts we cannot help but realize that all the game in the world is not worth the sacrifice of one human life.



Lawrence Woolson of Altoona, with groundhog he bagged with bow and arrow recently.

WITH THE CLUBS

While there is much discussion, pro and con, concerning the value and economy of additional stocking (especially with artificially-reared birds) of habitats in which a given species has become firmly established, or where there are ample small refuges to assure a carry over of adequate stock, it appears that the greatly increased pheasant kill of the past two seasons may to an appreciable extent represent the results of the new stocking program.

The current plan will be continued unless there is presented sufficient evidence to warrant a change of policy.

The State of Maryland has divorced its commercial fisheries from game and inland fisheries and set up a commission comparable to Pennsylvania's.

Game Protectors L. B. Rosenkrans and Elmer J. Turner, both of Elk County, recently reported having observed a place where a bear had been digging a woodchuck out of its burrow. Bear tracks were observed on the fresh dug ground around the burrow.

A Cooper's Hawk flew from the courthouse door at Indiana, Pa., and knocked a pipe out of a man's mouth. The courthouse was crowded at the time, and when the bird was captured it was back of one of the filing cabinets.

The Tamaqua Rod and Gun Club recently completed an outdoor pistol range and is now interested in arranging matches with other clubs. Recently the association formed the Bi-County Skeet League comprised of the Nanticoke Sportsmen's Association, the Altamont Skeet Team of Frackville, the West Hazleton Gun Club, and its own organization. It has 12 shoots scheduled, one every two weeks starting on September 10 and continuing until February 4, 1940. The club now has over 20,000 legal sized brown trout in its nursery pools which it raised from very small fingerlings received in the spring from the Fish Commission.

A Norristown hunter recently shot a 34" alligator in the Schuylkill River and reported seeing three others while he was hunting. Norristown and Philadelphia zoo officials said that some had escaped but that many persons received baby alligators from Florida and then turned them loose in nearby rivers when they grew up. The same situation has occurred many times in the past with reference to coyotes brought in by visitors to western states and liberated in Pennsylvania forests after the owners tired of caring for them.

During the last three weeks in September the Erie County Sportsmen's League released 2,000 ringneck pheasants raised on its game farm in Fairview, Pa., all from day-old chicks received from the Game Commission. In addition the League received 1000 six-week old chicks in August which it expects to hold over and release next spring.



The Field Day of the Harrisburg Hunters and Anglers Asso., and the New Cumberland and Mechanicsburg Sportsmen Association was an outstanding success, several thousand sportsmen and their families attending.



Part of the enthusiastic group which participated in the ever popular "wildcat" shoot.



Bever County Junior Sportsman, Elwood City, has been extremely active in building shelters, planting trees and carrying on other conservation programs. Above is a group of the boys and Dilman Wiley the Club Secretary on their way to a corn roast.



Black Night hailed the advent of Spring with long hunting trips.

(Continued from Page 11)

in their eyes. "A striper, all right, Ed. A youngster, too." "Just the thing for us. We'll take him home alive." "Hurt bad, but we can doctor that."

Black Night scrambled for the mouth of the den. He couldn't move more than several feet; but he tugged on, fear-inspired, until his leg was held by nothing except bloody, dirt-infected bone. At last he lay still. His body heaved in labored breathing; and his blinking eyes, the narrow beads of light that mirrored the helplessness of him, seemed to question the why of his throbbing leg, the why of the relentless brutality of man.

All was quiet except the wind, which had ceased howling, and mourned now as if in regret of its fury. Black Night sensed something pulling at his leg. He felt a movement beneath him. Soon, he was lifted into the air. The two trappers moved a long pole across their shoulders and Black Night dangled from the center. It had been done smoothly and quiet noiselessly, so that Black Night found no cause for alarm.

Black Night was carried to the swamp-top farmhouse. He was carried so gently that he was not afraid. Rather, he was curious. He wondered what it was all about. It was not until he reached the house that he went on guard again. He scented dogs.

The dogs did not appear. Black Night was carried into a shed and dropped smoothly on a straw-covered table. There, he became obsessed with his great pain; the warmth of the room started the circulation of the blood. When a stray rag was placed beneath his nose he went on guard again; but after a time, he sniffed at it, puzzled at the mysterious smell. And gradually he slipped into unconsciousness.

"He's got it, Ed."

"Yeah, but that ether better hold him till I get out his scent sacs. And that leg—I'll have to do a lot of work on it if we want to keep our new pet alive."

When Black Night awakened, he was alone. A greyish blackness was about him, pierced only by a narrow shaft of light from above

that he likened to the opening of his den at twilight. He recalled his capture and scrambled quickly to leave the spot. He hobbled painfully in search of escape. He was lost. He was walled in. And his leg still pained him. Something clung to it; the trap, the rattling monster that had held him. He bit at it, but it was not hard; instead, it was quite soft. Each time he bit at it a sharp pain knifed up his leg.

Later, he scented the meat of fowl. He became conscious of hunger. Nearby, he found a dead starling, and he ate with greed. His instinct for survival conquered the instinct of fear.

He was left unmolested for several days. Food was thrown hastily to him through the window. He was allowed to adjust himself

GOD OF THE WILDERNESS

to his environment, and given time to forge the horrors of being imprisoned in a steel trap. His leg, still useless because of bandages, ceased gradually to pain.

Then, one day, his captor came to him. He was terrified at sight of a man and backed quickly into a corner. As the man approached, he went on guard, and when he felt himself being touched, he convulsed his muscles.

"Hah, sort of surprised? Well your days of throwing scent are over." The trapper scooped the young skunk into his arms. He examined his leg, readjusted the splint, all the while grinning at the struggling animal with the satisfaction of a man who has proven himself master.

Black Night shrunk in fear. He expected some terrible thing to descend on him. When he felt his feet on the floor again he scurried for cover.

"Kind of shy now," mused the trapper "but I guess you'll get friendly yet."

That was the first of Black Night's surprises but there were countless more to follow. His means of defense had been destroyed. Time and again he tried to bring his scent glands into action. He continued to rely on his old weapon. It failed him completely. But he was never to overcome the habit of raising his tail when angered, for the poor dumb beast could never lose hope.

Each day the trapper visited him, each day he examined his wounds and re-dressed them. And each day Black Night tried to scent him, and bit and clawed; each time he was released he scurried quickly for cover.

Thus days passed. Black Night was well



The dog halted in his tracks and shrieked with pain.

ed and well handled. After a time he was made to walk in the open with his master led at the end of a long chain. At first, he spent these walks in wild attempts to escape, but gradually he accepted his fate and walked obediently behind his captor.

The world had softened for the young kunk. No longer was his a world of strife. No longer did constant danger overhang him. Food was brought to him. It was a serene world. Men became his friends; fear of them was swept from his eyes. They helped him when in danger. He was chained to an apple tree behind swamp-top house one day when a dog attacked him. He hunched and relied on his once-indominable defense, but it failed him. The dog circled, fangs bared and mouth foaming, watching for the chance to spring. Before he could attack, man rescued Black Night, driving the dog away.

Finally, his leg was well again. He played about the yard at the end of his chain like a domesticated house-cat, submitting to the whispered sweet nothings and tender strokes of love as if he had never been wild. He was content with civilization.

Then, the chain was removed from him. And the animal that had been obsessed with desire for escape now failed to venture beyond the plowed-over lands adjacent to swamp-top house. The wilderness was not now in his consciousness. His world was swamp-top house and the barn, shed, garden and plowed-over lands in its environs. He was a domesticated animal who recognized man as his master.

Sub-zero weather prevailed for several weeks. Sleet and snow storms poured from the bleak, light-starved skies, and recurring fogs wrapped the summit of Mt. Pocono. The cold was damp, piercing. February was ushered in by cold, drizzling rain. The moun-

tains were infinities of grey. Valleys steamed with frigid mist. All day long the forest was profoundly still except for the drip, drip, drip of rain-drops from the naked trees. Deer bunched in the scrub oak entanglements and smaller mammals and birds were nowhere to be seen. Occasionally, flocks of hungry crows soared across the tree-tops sounding their desolate caw. It was a bleak scene, a world of rain and cold.

A February dawn awakened a burning instinct in Black Night. It also awakened discontent. Deep within him, a restlessness was fired—a restlessness that grew stronger and stronger. He was no longer content to have his food brought to him. He became dark-loving and shy again, while the urge to roam at night pressed harder and harder. He awakened forgotten fears, forgotten desires. He was seized with a longing to hunt the trail alone again.

The spark was ignited. The flame sputtered to life and grew. It soared to tumultuous heights. The result was inevitable. Nothing could drown the flame—nothing but appeasement of the great desire—for there was no will to battle complete domination. A natural instinct had flared up, demanded satisfaction. It was the instinct born in a creature of the wild and it demanded to be answered in the wild.

Domestication!—All experiences in the evolution of it were forgotten. All friendliness, all lack-fear, were cast aside. The wilderness called. One of her sons was summoned to return. The wild sent primitive emotion out for him, deep from out her lonely breast.

He first felt strongly the longing for the wild one dark, windswept night. He didn't sleep that night, but paced with the howling wind, circling and circling his prison

shed in hopeless search of escape. Dawn found him deep in slumber, however, and when he awakened, the longing seemed dead.

But the longing returned. It came as the low wind hushed down the pine and mapled slopes of Mt. Pocono. The mating call; untamed, savage, beautiful. And so, one bleak-skied day, Black Night found himself outside of the shed when the urge returned. He answered it. He began to wander without realizing that it was the end of his home-paradise. He left without trying to slink away and without fear of detection. He went as if drawn by a giant magnet; indeed, he was! He passed the swamp-top clearing and plowed-over lands, passed the wild huckleberry thickets, passed the tumbling Bushkill. He plodded laurel-flanked trails and climbed the rock-strewn bluff. At last, he halted. His sensitive nose sniffed about him. Soon, he slipped silently into a well worn aperture under the bluff rock-ledge—back into the wild. He had come home. The silent, invisible Hand, guide to the wild and the children of the wild, had brought him home.

Black Night, the wild, was a slave to the instincts of the wild. He had returned to the land of his fathers: to the muffled roar of the Bushkill, the rising and falling complaints of the forest wind, the dominating cry of the distant wildcat; he had returned to his world of savage hunts and virgin loneliness. It was true heritage. He would never again return to civilization. It seemed almost as if the animal, too, had been stirred as the poet Robert Service when he penned:

"There's a whisper on the night-wind, there's a star agleam to guide us,

And the wild is calling, calling . . . let us go."

SIR REYNARD » » » THE FOX

Continued from Page 13)

however, let me assure you that this comparison is not intended to promote or cause ill will. To wit: One trapper caught and killed 141 gray foxes during the months of June, July, August, September, October and up to about the middle of November during 1937. Approximately 70% or ninety-nine foxes of that total catch was made prior to October 15 and these amounted to exactly nothing, as far as fur value is concerned. In fact there was a waste of approximately \$148.50 worth of furs at a fair estimate of \$1.50 per animal, which was brought about for no other reason than that a stimulus to kill was backed up by a law approved by an uninformed body of sportsmen. That waste, plus \$396.00 of bounty pressure, amounted to \$544.50, exclusive of the small game killed which naturally fell in line with the operation. During 1938 the same trapper repeated his practice with a total catch of 107 gray foxes up to the first day of November. He took his traps out of the woods when other trappers were hauling their traps in. Could anything be more discouraging

If it is not sufficient reason to convince you that some sportsmen have been and continue to be guilty of the sin of prodigality,

please be informed that those foxes were taken out of an area which up until a few years ago was almost an impenetrable wilderness. However, in the last three years it has become a wide open place and, strictly speaking, a big game section where only a very few individuals go to hunt for rabbits and grouse.

Even among the fox hunters we can pick out the warm weather "sportsmen" who, not satisfied with late September and early October shooting, run their dogs throughout the merry month of March when and while the female fox is heavily burdened with young, and this practice continues during April when the young may be lying in want while their mother is pursued, only to perish when their mother is slain. One effective load of shot, be it in March or April, may mean the death of four to ten foxes instead of just one.

With the biggest portion of our forest cut up like a checker board, with roads crisscrossing everywhere as the result of C.C.C. activity, the last strongholds of our wild creatures have been pierced. And, believe it or not, unless we wake up and regard with a sound mind this plea in behalf of the fox, the time will come when we shall all

feel regrets. Time goes on but it is too valuable to let pass any further without putting the skids on destructive practices.

Incidentally, is it not true that when you, a rabbit or grouse or ringneck pheasant hunter, go out into the woods and perchance bag a fox, you feel elated about it?

Fox control is, of course, necessary and there is a way to handle the job and keep it effective even under the present classification of "predator", and the continued payment of the present bounty, but under a limited, seasonal order. The suggested measure is as follows:

Red and gray fox (hunting and trapping restricted). Open season October 10 to the last day of February.

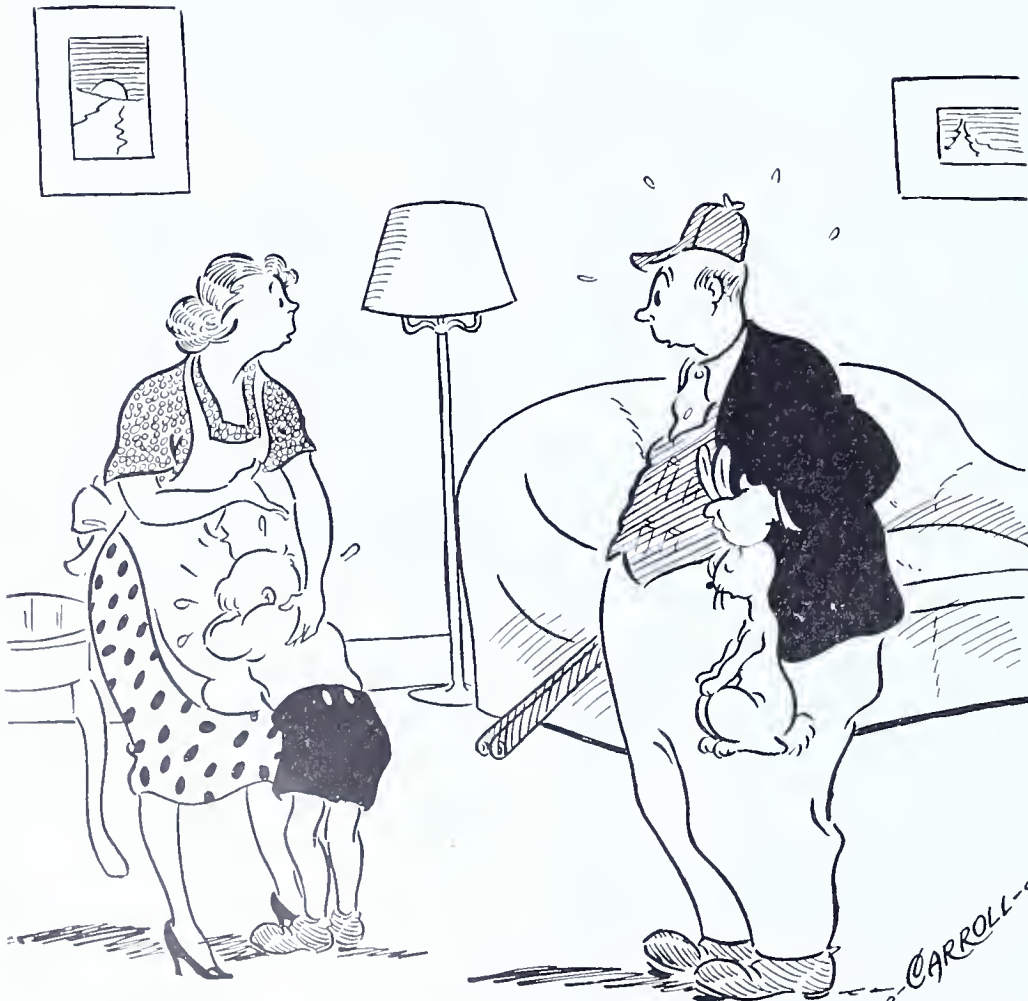
The general use of traps as applicable to wild animals to be prohibited by law from March 1 to October 9. (Not to apply to landowner or lessee when necessary to control depredating animals.) Exceptions: In the taking of muskrats, beavers and otters, during the month of March in any such year as an open season may be declared by the Commission.

These measures approved and adopted by the Pennsylvania Trappers' Association, as well as a number of fox hunters.

HUNTING LICENSE REVOCATIONS

Following is a list of the persons who have been denied the right to hunt in Pennsylvania this year.

Name	Address	County	Name	Address	County	Name	Address	County
Aaron, Grant, Strattanville		Clarion	Bennet, Merle Otis, R. D., Grampian		Clearfield	Campbell, Theodore F., R. D. 2,		Sullivan
Allen, Eugene Henry, R. D. 3, North		Potter	Benshaw, Benjamin, 2nd St., S.		Clinton	Forksville		Clinton
Altmore, Sam, Rossiter		Indiana	Renovo		Centre	Lock Haven		Allegheny
Anderson, Horace B., 813 Nat'l. Bank		Cambria	Berg, Robert John, R. D. 3, Smeth-		McKean	Pittsburgh		Indiana
Bullding, Johnstown		Venango	port		McKean	Cappos, Anthony, 49 Chathan St.,		Fulton
Anderson, Kenneth C., R. D. 3, Pleas-		Elk	Benyak, Joseph Frank, Billmyer		Centre	Pittsburgh		Non-Resident
antville		Berks	Benton, Millard Cecil, Pine Glen		Columbia	Caratelli, Quinto, Iselin		Elk
Angello, Angelo A., 27 Cardott St.,		Warren	Besecker, Ed. Lincoln, R. D. 1,		Erie	Carnell, Harold W., Amaranth		Somerset
Ridgeway		Allegheny	Kane		Monroe	Carpenter, Leonard, Crooked Creek..		Jefferson
Angstadt, Mathias L., R. D. 2, Kutz-		Adams	Billett, Edward D., R. D. 2, Belle-		Northumberland	Case, Russel W., R. D. 1, Narrows-		Jefferson
town		Somerset	fonte		Jefferson	burg, N. Y.		Jefferson
Anundson, Lorraine T., 106 W. Main		Warren	Billman, Walter A., 500 Shuman St.,		McKean	Casselberry, Ralph, Hills Grove		Jefferson
St., Sheffield		Clinton	Catawissa		Indiana	Cebovin, Joseph, James City		Jefferson
Arnold, Theodore J., R. D. 7, Bellevue		Beaver	Biscoff, Carl, R. D., Albion		Dauphin	Champluvier, Earnest, R. D. 1, Lacey-		Jefferson
Aungst, Clarence R., Avis		Elk	Bisel, John C., R. D. 1, Fort Hill..		Mifflin	ville		Jefferson
Aungst, Maynard F., Avis		Bradford	Blatt, Paul W., R. D., Sinking Spring		Monroe	Chandler, Geo. W., Harrison Valley..		Jefferson
		Non-Resident	Bloom, Wilbur George, Alexandria...		Monroe	Chapman, Dorsey Samuel, 108 West		Jefferson
		Adams	Blumenauer, Wilford, 6157 Ridge		Monroe	Middle St., Gettysburg		Jefferson
Baltozer, Orville F., R. D., Fayette-		Adams	Ave., Philadelphia		Monroe	Charles, Oscar Edward, R. D., Muncy		Jefferson
ville, So. Mountain		Warren	Boeck, Anthony John, Mountain St.,		Monroe	Valley		Jefferson
Barkman, Oscar Raymond, 801 W.		Warren	Trevelton		Monroe	Chittester, George W., Falls Creek..		Jefferson
Fifth St., Warren		Somerset	Boddorf, Ray Ellsworth, Ringgold...		Monroe	Chop, Stephen, Jr., Central City....		Jefferson
Barndt, Harry Richard, R. D. 6,		Adams	Bond, Jesse Wright, R. D. 2, Saylor-		Monroe	Ciccolini, Artimo, Haws		Jefferson
Somerset		Adams	burg		Monroe	Clark, Geo. Hall, R. D., Brockport..		Jefferson
Barnes, Jesse, 641 S. 10th St.,		Adams	Booth, Clifford J., R. D. 3, Smeth-		Monroe	Clark, Henry, Westfield		Jefferson
Reading		Adams	port		Monroe	Clark, Tracy John, R. D., Brockport		Jefferson
Barosky, John, R. D. 1, Box 308,		Adams	Bowers, David, Penn Run		Monroe	Clark, Walter Herbert, Emporium...		Jefferson
Conemaugh		Adams	Boyles, Joseph Reed, Star Route, S.		Monroe	Clinton, Elmer H., R. D. 2, Smeth-		Jefferson
Baughman, James Edward, R. D. 5,		Adams	Oil City		Monroe	port		Jefferson
Humphreys, Greensburg		Adams	Bracewell, Robert, Jr., 200 Laveer		Monroe	Close, Edward Frank, R. D. 1, Finley-		Jefferson
Baylor, Theodore Paul, 625 Darby		Adams	St., Philadelphia		Monroe	ville		Jefferson
Terrace, Darby		Adams	Breach, William, 2118 Turner St.,		Monroe	Cobleigh, Theodore, R. D. 3, Dallas..		Jefferson
Beaver, Herman, R. D. 3, Middleburg		Adams	Harrisburg		Monroe	Coder, Glen Edward, R. D., Crenshaw,		Jefferson
Snyder		Adams	Breneman, Andrew B., Granville ..		Monroe	Brockway		Jefferson
Bechtold, Ernest W., 829 Scull St.,		Adams	Brener, Henry, 1614 70th Street,		Monroe	Colarossi, Antonio, 1550 S. Norwick		Jefferson
Lebanon		Adams	Brooklyn, N. Y.		Monroe	St., Philadelphia		Jefferson
Beck, Clifford W., R. D. 2, Weedville		Adams	Bricker, Samuel C., 415 Hill St.,		Monroe	Cole, Webster W., R. D. 2, DuBois..		Jefferson
Elk		Adams	South Williamsport		Monroe	Connors, Claude A., Benzetteville...		Jefferson
Bell, Moses, Revere		Adams	Bridge, Fred Wesley, 69½ Willard		Monroe	Cook, Ralph D., R. D. 1, Fayetteville		Jefferson
Bender, Charles W., Park Ave. & 7th		Adams	Ave., Bradford		Monroe	Coveleski, Frank A., 919 Scott St.,		Jefferson
St., Lakemont		Adams	Brouse, Russell, R. D. 3, Middleburg		Monroe	Kulpmont		Jefferson
Bendlock, Pete, Delancey		Adams	Snyder		Monroe	Crawford, Elmer H., R. D. 3, York..		Jefferson
Beneski, William, 131 Yale St., Par-		Adams	Bushley, Lawrence W., Sackett		Monroe	Credford, Kenneth, Waterville.....		Jefferson
sons		Adams	Bushor, Arthur J., Sinnamahoning...		Monroe	Crofford, Tomie, 58 Neversink St.,		Jefferson
Bennet, Carl Ovis, R. D., Grampian..		Adams			Monroe	Reading		Jefferson
		Adams	Cacciola, John, Ave. "W" & E 2nd		Monroe	Crownover, Theodore C., Elderton...		Jefferson
		Adams	St., Brooklyn, N. Y.		Monroe	Cruver, Hartley L., R. D. 2, Lacey-		Jefferson
		Adams	Caciola, Anthony, 58 Oak St., New		Monroe	ville		Jefferson
		Adams	York, N. Y.		Monroe	Culp, Walter James, 43 Search St.,		Jefferson
		Adams	Calvert, Robert Harry, 241 Sandy St.,		Monroe	Shickshinny		Jefferson
		Adams	DuBois		Monroe	Cummings, Donald Sidney, 1307 Sill		Jefferson
		Adams	Campbell, Donald, 127 Llewellyn		Monroe	St., Warren		Jefferson
		Adams	Road, Montclair, N. J.		Monroe	Curry, Dave, Miola		Jefferson
		Adams			Monroe			Jefferson



He thought you shot the Easter Bunny.

Dalmaso, Reno, Star Route, Franklin	Venango
Dando, Martin, Kingston, Latrobe...	Westmoreland
Danko, John, Jr., Wilcox	Elk
Davis, Paul Leroy, 80 Corydon St.,	Bradford
DeJohn, John, Reynoldsville, R. D. 3	Jefferson
Demko, Joseph, Walston	Jefferson
Dennis, Robert, R. D. 9, Wellshoro..	Tioga
Densmore, Anson Erwin, Oswayo	Potter
DePasquale, Emile, 435 Pearle St.,	Pittsburgh
Derigo, Richard Joseph, Hazelhurst..	Allegheny
Derr, Frederick John, Muncy Valley..	Sullivan
(Alias Fred Derr)	
Derr, Paul William, R. D. 1, Kutz-	town
DeSabato, Alphonso, 1208 S. Broad	St., Philadelphia
Disney, Hardison D., West Fairview	Cumberland
Dixon, Phillip Ellis, Richardsville...	Jefferson
Dobson, Geo. John, R. D. 3, North	East
Dodge, Fred, Jr., 423 Grant Ave.,	Millvale
Dolan, Geo. Edward, Box 104, Liu-	field
Domnick, Edward, R. D. 1, Finley-	ville
Drake, Lynn Eric, Box 142, Shingle-	house
Duttry, Lee Roy, R. D. 2, DuBois...	Clearfield
Earon, William Guy, Williamsport..	Lycoming
Eckley, Ernest Elmer, R. D., Milroy.	Mifflin
Eggenberger, Edw., Greeley	Pike
Eggenberger, Nicholas, Lackawaxen..	Pike
Egolf, Joseph Leslie, Loysville.....	Perry
Ehret, Wilbur Jonas, 2917 Hudson	Rd., Erie
Eidman, Gilbert August, Camp Mead	Road, Shipley Heights, Md.
Eugle, William Victor, 37 Chestnut	St., Wilkes-Barre
Eyer, Delbert W., R. D. 1, Loganton	Clinton
Farner, Wallace M., 55 Balm St.,	Harrisburg
Feight, Geo. Howard, R. D. 2, Everett	Bedford
Felix, Thomas, R. D., New Paris....	Bedford
Fenstermacher, Harold, 204 N. 5th	St., Lewisburg
Ferree, Clyde, 2612-14th St., Ellwood	City
Fiesler, Ethelbert, R. D. 1, North	Girard
	Erie

Name	Address	County	Name	Address	County	Name	Address	County
Finnegan, Bernard James, 2419 S. 17th St., Philadelphia	Philadelphia		Kephart, William, Spring St., Emporium	Cameron		Long, Walter Earl, 475 Hermitage St., Philadelphia	Philadelphia	
Fisher, Harry Eugene, Shumans	Columbia		Kerestes, George, R. D. 2, Darlington	Beaver		Loring, Clair E., Black Lick	Indiana	
Fitrer, Russell Peter, 114 Moss St., Reading	Berks		Kerns, Raymond Lee, Perkins, West Virginia	Non-Resident		Loughran, Joseph F., Jr., 105 Forest Road, Springfield	Delaware	
Fleeger, Floyd O., Star Route, Kane	Elk		Kerstetter, Ralph Ray, Coburn	Centre		Love, George J., 1 Cherry St., Tamaqua	Schuylkill	
Fleming, Loren, C.C.C. Camp No. 103, Laquin	Bradford		Kesterholt, Ellis E., R. D. 1, Reynoldsville	Jefferson		Lowman, Donald Lindale, R. D. 4, Indiana	Indiana	
Fochit, Emil, N. Chestnut St., Bath	Northampton		Kesterholt, Wm. N., R. D. 4, Brookville	Jefferson		Lucia, Angelo Joseph, 1614 Morrison St., Warren	Warren	
Fogle, Claude Charles, R. D. 1, Palmerton	Northampton		Killing, Frank, R. D. 2, Mill Hall	Clinton		Lucia, Louis Joseph, 1307 8th St., Warren	Warren	
Foley, James, 1220 W. Pleasant St., Erie	Erie		Kingston, Dewey L., Shohola Falls	Schuylkill				
Foor, Nathan Henry, R. D. 1, Bedford	Bedford		Kingston, Nelson, Lords Valley (Alias Jake Kingston)	Pike				
Foth, Barton Howard, Aspers	Adams		Kitchen, Murry R., R. D. 1, LaJose	Clearfield		Machamer, David, Wiconisco	Dauphin	
Fried, Allen Clair, R. D. 3, York	York		Kitchen, Sam, Jr., R. D. 1, LaJose	Clearfield		Majerich, Frank, 21st & Lawrence Sts., Allentown	Lehigh	
Friends, Firmand, Millerton	Tioga		Klinedinst, Stewart L., 131 Linden St., Lancaster	Lancaster		Malnerich, Anthony, Venetia	Washington	
Fromknecht, Michel W., 2113 Pine Ave., Erie	Erie		Klinger, Samuel H., McClure	Snyder		Maloney, Anthony, Clune	Indiana	
Fullmer, Geo. W., R. D. 1, Bloomsburg	Columbia		Kocker, Earl, R. D. 1, Danielsville	Northampton		Marshall, John Henry, Bangor	Northampton	
			Kocker, Roy, R. D. 1, Palmerton	Northampton		Matenkowski, John, R. D. 1, Clearfield	Clearfield	
			Kondisko, Andrew Paul, Allport	Beaver		Mathews, Charles Wampum (Alias Charlie)	Lawrence	
			Kosarych, John, Box 206, Baden	Dauphin		Matteson, Charles N., Wattsburg	Erie	
			Kraft, Andrew H., R. D. 2, Halifax	Dauphin		Mattivi, August, R. D., Kersey	Elk	
			Kramer, Edward B., R. D. 2, Schwenksville	Montgomery		Mayer, George T., Jr., Mill Hall	Clinton	
			Krepick, Daniel, Wiconisco	Dauphin		McCalla, Norman C., Yonungstown, Ohio	Non-Resident	
			Kriouki, John Edward, R. D. 3, Reynoldsville	Jefferson		McCloskey, Larry Edw., R. D. 3, Bellefonte	Centre	
						McCluskey, George W., R. D. 2, Grove City	Mercer	
Ganard, Patrick Joseph, R. D. 1, Wilkes-Barre	Luzerne		Ladd, Dennie, R. D. 1, Allenwood	Lycoming		McConnon, Eugene Jos., Leeper	Clarion	
Gargasz, Frank, R. D. 2, Volant	Lawrence		Laird, LeRoy Alvin, R. D. 1, St. Marys	Elk		McCracken, Thurman O., 1182 Winton Ave., Akron, Ohio	Non-Resident	
Gates, George W., R. D. 1, Martinsburg	Blair		Lansberry, Merl Gerald, Mineral Springs	Clearfield		McDermitt, Charles H., R. D. 1, Lock Haven	Clinton	
Gehring, Mervin, R. D. 1, Breinigsville	Lehigh		Lassardi, Angelo, Colver	Cambria		McKimm, Ase, Driftwood	Cameron	
Gentzler, Paris Eugene, R. D. 1, Columbia	Lancaster		Lauver, Thomas W., Milroy	Mifflin		McMannus, Freeman, R. D. 1, Coal Centre	Washington	
Gers, Frederick Lewis, Lewistown	Mifflin		Lawer, Charles Coltman, 60 Beach St., Rockaway, N. J.	Non-Resident		McMonigle, Paul Jack, West Decatur	Clearfield	
Goodreau, Adolphus Fay, Bucktail Trail, St. Marys	Elk		LeBeouf, Maurice J., R. D. 1, Hawley	Wayne		McNaughton, Daniel J., Fisher	Jefferson	
Graham, John, Sheffield	Warren		Leed, Walter Phares, Akron	Lancaster		Meckley, Jacob Lester, 137 Bainbridge St., Elizabethtown	Lancaster	
Grassnik, Ernest, Fair Harbor, N. Y.	Non-Resident		Lehman, Paul Richard, Newville	Cumberland		Meekins, Walter, Commodore	Indiana	
Graver, Fred C., Ligonier	Westmoreland		Lemke, Chester Francis, Dorothy, Unity Twp.	Westmoreland		Merritts, Milton H., R. D. 3, Huntingdon	Huntingdon	
Graver, Robert A., Ligonier	Westmoreland		Lender, Walter Paul, R. D. 1, Utahville	Clearfield		Mertsoc, Adam J., Sabinsville	Tioga	
Gray, Mease Winfield, Avis	Clinton		Lewis, George Monroe, R. D. 2, Stoneboro	Mercer		Meyer, Geo. Deal, Loysville	Perry	
Greencavish, Charles, 313 Winters Ave., West Hazleton	Luzerne		Lewis, Melvin Caldwell, 2213 Columbia Ave., Tyrone	Blair		Michael, J. Beaver, R. D. 1, Muncy	Lycoming	
Grigsby, John William, R. D. 2, Smethport	McKean		Lisko, Peter, R. D. 1, No. Girard	Erie		Mickens, Julius, Box 272, Fairchance	Fayette	
Grimes, Milton, Everett	Bedford		Lidwell, Patrick, Ashville	Cambria		Miller, Eugene, Harrison Valley	Tioga	
Gnenzi, Thomas, 38 S. High St., Greenville	Mercer		Lidwell, Roger, Ashville	Cambria		Miller, George, Sheffield	Warren	
Gunsallus, Russel A., Blanchard	Centre		Lingle, Ralph, R. D., Spring Mills	Centre		Miller, George M., R. D. 2, Latrobe	Westmoreland	
Gunther, Aleck Herman, 540 Lincoln Ave., Erie	Erie		Liptak, Steve, Byrnedale, Jay Twp.	Elk		Miller, Howard, E. Mill St., Nesquehoning	Carbon	
			Lohr, George E., R. D. 2, Bellefonte	Centre				
			Long, John, R. D. 1, Wilkes-Barre	Luzerne				
Hackett, Cecil G., 3 Westfield, R.D. 4	Tioga							
Haines, Wilson, R. D. 1, Middleburg	Snyder							
Hall, Raymond Lee, Box 396 Monaca	Beaver							
Harding, Daniel B., 315 Roosevelt Ave., York	York							
Harpster, Clark, Penna. Furnace	Huntingdon							
Harter, Earnest, Munson	Clearfield							
Haynes, Walter J., R. D., Rock City Road, Olean, N. Y.	Non-Resident							
Heffner, Paul Wm., 728 E. 2nd St., Nescopeck	Luzerne							
Helwig, Russell Dale, R. D., McAllisterville	Juniata							
Herbstreit, Joseph C., R. D. 4, Coudersport	Potter							
Herbstreit, Richard M., R. D. 4, Coudersport	Potter							
Herman, Guy, R. D. 1, Middleburg	Snyder							
Herring, Charles F., R. D. 5, Somerset	Somerset							
Heskett, Earl, 1036 Priestly Ave., Lawrence Park	Erie							
Hickman, Stephen, R. D. 1, Dunns Station	Washington							
Hinderliter, Dean A., Strattonville	Jefferson							
Hines, George Herbert, R. D. 1, Stroudsburg	Monroe							
Hinkle, Homer, R. D., Aitch	Huntingdon							
Hoffman, Dominick John, Gen. Delivery, St. Marys	Elk							
Holcomb, Owen Meredith, Oswayo	Potter							
Hollenbaugh, Meredith, Latrobe	Westmoreland							
Holler, Edw. C., 418 Conrad Ave., North Charleroi	Washington							
Hollerick, Joseph Henry, 319 Church Ave., Pittsburgh	Allegheny							
Holliugshead, George, Harrisonville	Fulton							
Houck, Harvey, R. D. 1, Paradise	Lancaster							
Houston, Abe Pierce, Kylertown	Clearfield							
Huber, Wm. Henry, 1234 Carbon St., Reading	Berks							
Hughes, Charles L., 121 Penn St., Bellefonte	Centre							
Hughes, Jephtha, R. D. 1, Tioga	Tioga							
Hughes, Walter Crook, R. D. 1, Birdsboro	Berks							
Hunter, Walter, R. D., Ashland (Barry Station)	Schuylkill							
Huntingdon, Clarence R., Crenshaw, R. D., Brockway	Jefferson							
Jackson, Cecil J., R. D. 2, Smethport	McKean							
Jaggi, Wayne Delose, Columbus	Erie							
Jankauskas, Peter, Jr., R. D. 3, Moscow	Lackawanna							
Johnson, Chapman C., Buckingham	Montgomery							
Johnson, Harry, R. D. 1, Olanta (Alias Pete Johnson)	Clearfield							
Jones, Elwood, 113 Ferry St., Easton	Northampton							
Jones, Samuel G., R. D. 1, Newburg	Cumberland							
Jordon, James W., Warfordsburg	Fulton							
Kachmarsky, Nick, Lopez	Sullivan							
Kauffman, Milton Henry, E. Windsor St., Hamburg	Berks							
Keen, Victor Elias, R. D. 1, Wilkes-Barre	Luzerne							

"Last year the guy that owns this farm said the next time he catches me here he's going to shoot my pants full of holes."



"Last year the guy that owns this farm said the next time he catches me here he's going to shoot my pants full of holes."



"Bread and Butter, Samuel."

Name	Address	County
Miller, Lewis, R. D. 2, Union City...	Erie	
Miller, Roland J., Haws	Mifflin	
Mills, Roland Edward, R. D. 4, Honesdale	Wayne	
Missmer, Renel W., 608 N. 8th St., Allentown	Lehigh	
Mlechick, John, Delancey	Jefferson	
Moate, Albert Ceeley, Jr., R. D., Driftwood	Cameron	
Moate, Albert Clifford, Jr., R. D., Driftwood	Cameron	
Monroe, Perry, Granville Summit...	Bradford	
Morgret, Earl L., R. D. 1, Amaranth...	Fulton	
Moyer, Chas. B., Georgetown, Del. .	Non-Resident	
Moyer, Theo. M., Avis	Clinton	
Moyer, Wilson, East Mauch Chunk...	Carbon	
Mudge, Harold A., R. D., Greentown...	Pike	
Mumford, Theo. Harrison, R. D. 5, Brookville	Jefferson	
Murovsky, Edward, R. D. 1, White Haven	Luzerne	
Musick, Randall T., Woodward	Centre	
Nastase, Samuel Francis, Snow Shoe...	Centre	
Neilson, John, R. D. 1, Norristown...	Montgomery	
Nickel, Samuel Alfred, R. D. 3, Newville	Cumberland	
Nicolai, Cesari, 108 W. Elm St., Conshohocken	Montgomery	
Nies, Otto, Spring St., Loraine	Cambria	
Nieswonger, Clair M., Strattonville...	Jefferson	
Nissley, Edward R., R. D. 1, Marietta	Lancaster	
Nissley, Walter R., R. D. 1, Marietta	Lancaster	
Nocero, Guiseppi N., Edmon	Armstrong	
Noel, Henry, 211 No. St., McSherrytown	Adams	
Nolph, Guy Irwin, R. D. 1, Reynoldsville	Jefferson	
Novack, Anthony, 6111 Bingham St., Philadelphia	Philadelphia	
Novosat, Joseph Anthony, Byrnedale...	Elk	
Novosat, Michael Adam, Weedville...	Elk	
Nulf, Oscar Wm., Brockport	Elk	
Oertley, Walter P., 64 Montmorenci Road, Ridgway	Elk	
Olewne, Patrick, Hollidaysburg	Blair	
Olmsted, Harold, 306 Penn Ave., Wyomissing	Berks	
Oster, Thomas Henry, 7310 Irvine Ave., Swissvale	Allegheny	
Padilla, Augustine Jos., R. D. 1, Costello	Potter	
Painter, Harry A., 130 Biddle St., Kane	Elk	
Painter, Harry A., 451 No. Ave.,		

Name	Address	County
Kittanning	Armstrong	
Papesch, Jos. Wm., 6403 Roland Ave., Cleveland, Ohio	Non-Resident	
Parks, Albert, R. D. 1, Pine Croft...	Fulton	
Parr, Woodrow, 211 York St., Hanover	Adams	
Payne, Dale, R. D. 1, Girard	Warren	
Payne, John, R. D. 1, No. Girard...	Erie	
Pederson, Gunnert J., 417 Penna Ave., Warren	Warren	
Peganauff, Sam, 316 E. 2nd St., Erie	Erie	
Pelfer, Patrick, Newfoundland	Wayne	
Pennebaker, Forrest R., R. D., Thompsonstown	Juniata	
Perry, Jess B., Jr., Clarendon	Warren	
Peters, Walter L., R. D. 4, Mechanicsburg	Cumberland	
Pfanner, Harry Clover, 305 N. Easton Road, Willow Grove	Montgomery	
Phillips, Walter L., Shinglehouse...	Potter	
Pierce, John Robert, R. D. 1, Costello	Potter	
Pierce, Kenneth Roland, R. D. 2, Smethport	McKean	
Pinnin, Michael, 1106 "D" St., S. E., Washington, D. C.	Non-Resident	
Poole, Cecil Albert, 24 Barnes St., Sheffield	Warren	
Poorman, Roger, N. Allegheny St., Bellefonte	Centre	
Post, Howard, 115 Cherry St., Athens	Bradford	
Potteigher, Earl, R. D. 1, Harrisburg	Dauphin	
Prindible, Joseph G., R. D. 1, Kane...	McKean	
Pringle, Richard L., R. D. 5, Coudersport	Potter	
Prough, Ira Madison, 2 Penn Ave., Mt. Union	Huntingdon	
Pryor, Wm. (colored), 3 W. Home St., New Castle	Lawrence	
Quick, Leroy E., R. D. 4, Apollo....	Armstrong	
Rabold, Charles C., 2306 4th Ave., Altoona	Blair	
Rachau, Clyde I., Castanea	Clinton	
Rafferty, James W., Grampian	Clearfield	
Rager, Galen, R. 266 Cypress Ave., Johnstown	Cambria	
Rauch, Lewis Edgar, R. D. 1, McAlisterville	Juniata	
Rausch, Norman Alfred, 526 E. 6th Ave., Tarentum	Allegheny	
Ravenis, Vincent John, R. D. 2, Catawissa	Columbia	
Ream, Warren Andrew, Denver	Lancaster	
Reapsome, Benjamin F., R. D. 1, Lancaster	Lancaster	

Name	Address	County
Reasinger, Arnold Leroy, Hospital St., DuBois	Clearfield	
Redding, Wm. Francis II, R. D. 2, Gettysburg	Adams	
Reindollar, Fern, 215 York St., Hanover	Adams	
Reph, Theo. Roosevelt, R. D. 1, Palmerton	Northampton	
Rhines, Wm. James, 218 Grove St., Ridgway	Elk	
Rhodes, George David, 131 2nd St., West Fairview	Cumberland	
Rhodes, Robert H., Houstontown....	Fulton	
Rhone, George, 1145½ Chestnut St., Sunbury	Northumberland	
Rhone, Robert, Mount Union	Huntingdon	
Richardson, Basil, Cedar Run	Lycoming	
Richardson, Talmage (colored), Wampum	Lawrence	
Rickard, Denwain, Glasgow	Cambria	
Ritter, Mrs. Heyward, R. D. 1, New Brighton	Beaver	
Robinson, Clarence F., R. D. 1, Ulysses	Potter	
Romania, Pete, Lopez	Sullivan	
Rowe, Howard W., R. D., Rummerville	Bradford	
Rowles, Donald James, R. D. 1, Olanta	Clearfield	
Rowles, Geo. Arthur, R. D. 4, Clearfield	Clearfield	
Rubright, Leroy Luther, 5036 Leesport Rd., Temple	Berks	
Rugg, Jesse W., R. D. 1, Mill Run...	Fayette	
Rugg, Lincoln, R. D. 2, Dunbar	Fayette	
Rung, Stanley, R. D. 1, Mt. Union...	Huntingdon	
Rupert, Fred, Beech Creek	Clinton	
Sabo, Michael G., 307 Center Ave., Greensburg	Westmoreland	
Sackash, Mike, Cramer	Indiana	
Sacks, John, Zeiglersville	Montgomery	
Saiers, Lee Oliver, R. D. 1, Roulette...	Potter	
Santony, Frank B., R. D., Brockport...	Elk	
Sarañe, John, Force	Elk	
Scharff, Ralph G., Strausstown	Berks	
Schrackengast, Bruce C., Millheim...	Centre	
Sciallis, Frank, 38 James St., New York City	Non-Resident	
Seiple, Paul M., 120 Washington St., Bangor	Northampton	
Sellers, John Calvin, 523 S. Centre St., Somerset	Somerset	
Sentiwany, Rudolph P. Jnnedale....	Lehigh	
Shade, T. E. 316 E. Bald Eagle St., Lock Haven	Clinton	
Shaffer, Levas, Cedar Run	Tioga	
Shall, Dominic Jos., Oswayo	Potter	
Shierer, James Woodrow, Buffalo Mills	Bedford	
Shelly, George S., Thompsonstown...	Juniata	
Sheppardson, Wm., Nassau St., Danville	Columbia	
Sherbaundy, Geo. H., 4½ Wall St., Greenville	Mercer	
Sherman, Glenn, 1 Hanover St., Gettysburg	Adams	
Shimer, Benjamin J., 8th Ave. & Wells Street	Montgomery	
Shobert, Ralph M., 117 Ward Place, South Orange, N. J.	Non-Resident	
Shovelin, John, 33½ Carbon Lane, Wilkes-Barre	Luzerne	
Shultz, Allen, R. D. 2, Fayetteville...	Adams	
Shultz, Mrs. Charlotte, R. D. 2, Fayetteville	Adams	
Sicheri, David, R. D., Kersey	Elk	
Singer, Raymond Henry, R. D., Box 72, Penfield	Elk	
Small, Anson, R. D. 1, Titusville....	Crawford	
Smith, Earl F., Mertztown	Berks	
Smith, Martie, Millerton	Tioga	
Smith, Richard, R. D. 1, McClure...	Mifflin	
Smith, Verus Clayton, Rauchtown...	Clinton	
Smock, Clarence Edward, R. D. 4, Meadville	Crawford	
Snyder, Elmer E., R. D., Three Springs	Crawford	
Sommners, George Bernard, R. D. 2, Wampum	Lawrence	
Sones, James (Alias "Peck"), R. D., Muncy Valley	Sullivan	
Sourbeer, Averill Lynn, 445 Lafayette St., Lancaster	Lancaster	
Spangler, Earl E., Box 78, Cairnbrook	Somerset	
Spangler, John Henry, R. D. 1, Central City	Somerset	
Spatz, Herbert K., Rebrersburg....	Berks	
Speaker, Wm. Eugene, Emporium....	Cameron	
Spencer, Oliver D., R. D. 4, Wellsboro	Tioga	
Stabryla, Julian, Monnted Route 7, Ellwood City	Lawrence	
Stafford, Charles L., Little Marsh...	Tioga	
Staggert, Alfred, R. D. 1, Allenwood...	Lycoming	
Staggert, Miles, R. D. 1, Allenwood...	Lycoming	
Stahley, Raymond J., Fairfield	Adams	
Staley, Mark, R. D. 4, Gettysburg...	Adams	
Staley, Mead, Amaranth	Fulton	
Stallsmith, Cecil C., Conneaut Lake...	Crawford	
Starr, Albert James, R. D. 2, Brockway	Jefferson	
Stedman, Shirley Adam, R. D. 3, Benton	Columbia	
Stepp, Lenwood (colored), R. D. 2, Wampum	Lawrence	

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HEARTWORMS IN HOUNDS

« « « by Newbold Ely, Jr., M. F. H.

HOUNDS look thin or may still look o.k. and yet tire at the end of a day, and we think of hookworm or poor food or what not. Often it is this and no one is more sold than I on keeping hookworms at a minimum and feeding the best food. However, as we know, often all apparent causes are checked, and still the hound is not right. What may be the trouble is heartworm or *filaria*. *Filaria immitis* was discovered by Panthot way back in 1679 but nobody paid much attention to him or even to prominent vets as late as after the war. Then field trial logs began keeling over in their second series, and being in the South where all parasites are worse, owners gradually began to have their thousand dollar field trial hopes tested and treated.

In the North the M. F. H.'s observed an ostrich attitude which was o.k. until hounds from the South began carrying up the disease. At the University Veterinary Hospital where I have the honor of being on the Board of Managers the percentage of infected animals from the South has increased from zero per cent gradually each year until it is over 30%, and now it is pretty much in the northern kennels from ignorance or laziness; just as hookworm marched up in the early part of the century. In fact, some otherwise exemplary kennels run over 50% infected.

The anitomy treatment takes about three weeks on the average and the intervenous

injections should be given by a vet. My personal experience, confined until this year to hounds bought or given me, has been most satisfactory all having been cleared up, the only fatalities having been deliberate ones where I gave the hound to experiment on for dosages, etc. This year I had the first positive reactions among hounds of my own breeding, but last week the last one had its third successive negative test and apparently the whole kennel is now free, and by strict quarantine, I hope to keep it so.

The micro *filariae* are small almost transparent worms which track around under the microscope in their drop of blood on a slide like miniature sea serpents. The test is quite easy to make and it would be splendid if masters would have their local vet examine their hounds and segregate and treat all positive ones. The bug is carried by mosquitoes and hounds clear one day can be infected the next by some kennelmate with it.

When the infected hound is posted you may find enough adult worms, like long pieces of spaghetti, to fill a quart jar. Mundhenk and Greene of the Alabama Polytechnic Institute have just published a paper in *Veterinary Medicine* in which they say — "Although exceedingly common in some parts of the world, particularly in the Orient, heart worm infection in the United States was considered, until recently, to be more or less restricted to the Gulf and South At-

lantic coasts; but lately it has been reported from practically all parts of the country."

They go on to call attention to the difference between *S. Sanguinolenta* and *D. immitis* which we've been discussing. The other worm, the *S. sanguinolenta* chap, is an esophageal worm, and just so all the Chronicle readers can readily tell which is which, we give the Alabama scientists lucid synopsis:

"Thus while these two hematozoa are of almost the same length and practically identical in appearance when observed unstained and in motion, examination of fixed, stained specimens reveals outstanding differences, as might be expected of parasites of such zoological relationship. The esophageal worm larva has a slightly narrower body, but a wider cephalic extremity free of somatic cells for a distance of approximately 10u, while the heart worm larva has a wider body and a narrower and rather tapering cephalic extremity free of somatic cells for a distance averaging less than 7u. These measurements have been found much more practical for the practitioner than the complicated series of measurements based on the determination, in terms of total body length percentage, of the relative locations of almost unrecognizable anatomical features."

Get your vet to test your kennel at least once a year, and then have the infected ones treated quickly—because even if you don't give a damn yourself, think of the other fellow's hounds yours may infect.

Fall and Winter Food Habits of the Marsh Hawk

(Continued from Page 12)

pending on availability and hunting conditions. This conception is in harmony with the conclusions of Errington and Breckenridge (1936), who write: "The diet of the marsh hawk during the colder months appears to run strongly to small mammals such as mice, with a varying proportion of small birds from sparrow to blackbird sizes."

The ringneck pheasant population of the study area was very high. The fall population was in excess of 1 bird per 2 acres, while the mid-winter population on one-half of the area was 1 bird per 4 acres. The other half supported a smaller winter population. Despite the presence of a large number of pheasants on the study area, no evidence of predation by marsh hawks was found, either in the pellets or in the field. Some of the marsh hawks paid no attention to pheasants feeding in the open, apparently having learned from experience that they were not strong enough to capture healthy adult pheasants. During snowy weather marsh hawks were observed to dive at pheasants occasionally, but the latter always escaped rather easily. There is no reason to believe that the marsh hawk is a serious enemy of healthy adult pheasants.

A few coveys of bobwhites (*Colinus virginianus virginianus*) resided on the area although this species was not numerous. One flock of 17 mourning doves (*Zenaidura macroura carolinensis*) wintered on the area. So far as could be determined from field observations and pellet analysis, none of these birds were taken by marsh hawks. Errington and Breckenridge (1936) state that bobwhites living in unfavorable or over-crowded habitats or weakened by starvation, may occasionally be taken by marsh hawks. They do not regard this hawk as a serious enemy of quail. Stoddard (1931) found only 4 bobwhites in 1,098 pellets collected on marsh hawk wintering grounds in Leon County, Florida. He found cotton rats (*Sigmodon hispidus*), serious destroyers of quail

eggs, in 925 of these pellets. Stoddard concluded that the marsh hawk is a benefactor of the quail in that region since it greatly reduces the number of these rodents.

Cottontails were very numerous on the study area. Hunters bagged about 396 rabbits on the study area, which was a kill of approximately 1 rabbit per 5 acres. Even after this large mortality from hunting, rabbits were common. Cottontails constituted 9 of the 191 items of prey found in the winter pellets of the marsh hawk. These nine individuals may include some which were eaten as carrion. The marsh hawk does not appear to be a serious check on the cottontail population during the fall and winter months. The high cottontail population on an area where marsh hawks are common, is in itself proof of this statement.

Summary

Mice seem to be the staple winter food of the marsh hawk in Pennsylvania. Small amounts of carrion and songbirds, as well as miscellaneous items of prey, also occur in the diet. The availability of prey seems to determine to a great extent what is eaten, and deep snows cause a higher percentage of avian prey to be taken by the marsh hawk.

No evidence was found of predation by the marsh hawk on adult pheasants. It does not appear that this hawk made serious depredations on the populations of other game species occurring on the study area, including bobwhites and cottontails.

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1932. The technique of raptor food habits study. Condor, Vol. 34, pp. 75-86.
Errington, P. L., and W. J. Breckenridge
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A Boy's First Grouse

(Continued from Page 7)

shot. I'll move in from this side and try to flush the bird straight away from you. Are you ready?"

Obedying the Judge's instructions, the boy, trembling, breathing fast, exclaimed: "I'm on the alert, Dad. I'm ready!"

The Judge pushed through the brush, expecting the rise of the bird at each step. **With startling swiftness, a grouse exploded from the thicket's edge and thundered upward straight away from the boy.** The Judge heard the sharp crack of Gib's 410 but no further sound of beating wings. He crashed through the brush toward the boy. Emerging from the thicket, he came upon a scene that would warm and thrill the heart of any lover of field and stream and linger long and fresh in memory.

On his first hunting day, in one of Nature's garden spots, a boy, twelve years of age, smoke filtering lazily from the muzzle of his gun, his feet wide apart, his head thrust forward, gazed in amazement at an object thirty yards in front of him. For the first time, a dog had pointed a grouse for him, the grouse had thundered upward in its flight, had collapsed in air to his shot, and had fallen to earth, dead. This new and glorious fact froze him to the spot, rigid.

Bozo still held his point, steady to wing and shot. The Judge broke the spell by commanding the dog: "Dead bird, Bozo. Go, fetch."

As Bozo retrieved the grouse to father and son, the boy, in wonder and surprise, looked at his gun, then at the dog and bird, then up at his father, a happy grin spreading from ear to ear as he exulted: "I shot it."

Life's biggest moment! A boy's first grouse! For the Judge, the day was complete. He had been permitted to see and feel one of the jewels of real sport. The memory of young Gib's first grouse and the lad's pleasure and joy would brighten and shorten many lonely hours which the Judge's business required him to spend away from his home and family.

However, this initial victory seemed to whet Gib's hunting desire, revive his flagging spirits, and spur him on to greater effort.

How often do hunters and fishermen start the day with high hopes, energy, and vigor, which dwindle as they fail to bring game or fish to bag or basket but which are revived with double keenness by the netting of a fish or the bagging of a piece of game!

They continued to parallel the left side of the dam until they arrived near its head, at which point the Judge stationed Gib in the clear on dry ground saying: "Suppose you stay here. A grouse usually hangs out in that patch of pine and laurel but its too thick for you to get through and the swamp cuts in there. You'd sink in up to your knees some places. Keep your eyes open. This bird will either flush toward you or up the swamp. If it comes your way, get him. I won't dare shoot in your direction."

The Judge worked his way through the pine and laurel and came to the corner of a wire fence which marked a boundary. At this moment, a grouse catapulted from the laurel, going away from Gib. The thickness of cover making necessary a quick shot, the Judge shot automatically before the gunstock reached his shoulder, without conscious or deliberate aim. The bird went down stone dead in two feet of muck and water on the edge of a tangle of undergrowth, pine and laurel.

As Bozo splashed forward to retrieve, a shrill voice piped: "Did you get it, Dad?"

"Yep."

"What is it?"

"Another grouse."

"Gee, let me see it!"

"You'd better stay where you are, Gib. I'll bring it out to you."

Soaking wet and mud from muzzle to tip of tail, Bozo brought the bird to the Judge's hand, an ever-fresh source of pride to the owner of a bird dog no matter how often it occurs. Making his way to Gib, the Judge displayed the bird for inspection: "That's two grouse between us today. Funny thing about this bird. I've missed plenty of easier shots this season. He flew right across in front of me. Ordinarily, that's the hardest kind of shot. You must lead a right angle shot plenty and follow through. Just goes

to show that one day you're on, the next day you're off. There's no use complaining when you miss 'em because, after all, it's the rub of the woods. You'll be hitting the next day. I shot blind and luck was with me. What do you say we go along about a hundred yards and then head up the ridge?"

"Okay with me, Dad. Holy smoke, wow! Mother be proud? Two grouse! Boy!"

Continuing on about a hundred yards, the Judge turned and drilled up the slope of the ridge through old slashings and second growth timber to the open fields but saw no game. Bearing to the left, the Judge put Gib out in the fields while he kept about thirty yards or so down in the woods on the theory that some birds would be feeding along the edge of the fields or might have been routed there by hunters in the bottom.

After a tiring half hour's tramp without results, the Judge began to suspect that his strategy was all wrong. Made careless and indifferent by the disappointing scarcity of game, he stalked along, unmindful of proper hunting behavior, and failed to notice the energetic working of Bozo indicating the proximity of game. As a result of not heeding the dog's warning by standing fast until the dog had worked out the problem, the Judge flushed a grouse between him and Gib which flew down into the woods. Bozo hunters fired and then the 410 cracked again. The bird went down, Bozo retrieving as a matter of course.

Naturally, the lad claimed the kill, which the Judge agreed promptly, concealing with enjoyment whatever doubt he had as to the proximate cause of the bird's death as said to the boy:

"I want to particularly compliment you on the way you handled that bird. You fired two shots which is good work considering that you had to work the lever to get the second shell in the chamber and then aimed and fired. Many hunters are so startled and out of control when a grouse flushes that they are lucky to get one shot. You and I have listened to prize-fights over the radio and have heard the referee count a knockdown or knock-out. Well, you can depend upon it, son, that, when a grouse flushes you can count three in the same manner and if you haven't hit him, you're out and he's gone."

"By the way," the Judge continued as he skirted the woods, "That grouse headed for the woods and not the open fields. Most grouse and ringneck pheasants, flushed on the edge of woods, will fly into the woods for refuge. Always have one man down in the woods thirty to fifty yards to get those shots. Tired, buddy?"

Gib hesitated and then admitted: "Yes, I'm getting tired, Dad, but I can still go."

"Well, let's work the fields where the going's not so tough and head for the road above the woods. Maybe we'll kick out a rabbit or two."

In the next weedy field, Bozo again scenting game and wheeled into a sharp point. Approaching slowly, the man and boy came up even with the dog. They took several steps forward. A gorgeous ringneck cock roared

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ward from a fence corner and set sail for woods. The Judge's gun pulled off line he fired the right barrel, missing completely. Mentally kicking himself for being anxious, he steadied, drew a careful bead on the bird going away, pressed the trigger in for the left barrel, and had the satisfaction of seeing the ringneck side-slip, tumble, and hurtle to the ground.

Knowing from sad experience that ringnecks are hard to kill and frequently escape by running or hiding after being knocked down, the Judge hurriedly reloaded and, seeing Gib to do likewise, he ran to the spot where he thought the bird went down. The ringneck had vanished. It was not there.

"I'll be dog-gone," mourned the Judge, "I could have sworn that bird hit the ground and I'll bet a dime he picked himself up and hid in the grass and weeds but I know he was hit hard. Here, Bozo, dead bird! Fetch! Did you shoot, Gib?"

"Did I shoot?" Gib retorted. "You bet I did. I fired two shots and hit him, so I did. Hey, Dad, I think it went down on the other side of that wire fence. I saw a feather hitting down over there."

"No, no, I couldn't be that far wrong," the Judge replied. "I'm sure I marked the exact spot. It's open country, not brush or woods. No excuse for making a mistake."

"Anyway, I'm going to look over there," Gib insisted.

Then ensued an oft-repeated hunting spectacle. A bird knocked down but not found. Filled, irritated, exasperated hunters sifting and combing the weeds and heavy grass, alternately muttering about their luck and crying for help.

"Hey, Dad," Gib called from the other side of the fence.

"What do you want?" the Judge growled without looking up or interrupting his search.

"Look here, will you?"

The Judge glanced at Gib, then stopped short and stared. There stood Gib, eyes shining and roguish grin on his face, holding up the dead pheasant, its plumage brilliant and shimmering in the failing sunlight.

"I told you it was over there," the lad chuckled.

"You win, son," the Judge admitted. "I'm wrong. That's another example of how often a figure short on where a bird goes down. We're learning a lot of hunting today, aren't we, pal?"

Gib nodded assent. His father stowed away the ringneck in his game pocket and said: "Gib, a real sportsman is never a game bag. We've had a grand day. We've had good luck, three grouse and a ringneck. That's enough even if it is less than the ideal limit. I'm tired. So are you. It's a good plan never to exhaust yourself in the field or along a stream. Come on, pal. We're going back to camp."

So, the two hunters, man and boy, father and son, with their dog still out ahead and following, crossed the fields to the road and thence past the breast of the dam to their camp. Bozo, his day's work done, curled up on the back seat and slept while the hunters turned to camp.

Just before turning into the road leading to camp, Gib nudged his Dad and imploringly asked: "Dad, let me do something, will you?"

"What, Gib?"

"Let me carry the birds in? Will you Dad?"

The Judge took one look at that pleading face and knew that he could not and did not want to refuse: "Sure thing, old timer, you carry them in."

Gib had the door half open before the car stopped. Out he jumped and grabbed the birds. Two grouse in one fist and a grouse and ringneck in the other, he strutted toward the cabin door, shouting with glee and exultation, the fruits of his first day of hunting held high, more precious at the moment than fine gold: "Look what we got!"

Entering into the spirit of the occasion, all hands congratulated and were glad. The sun rolled behind the western hills. Dusk gathered the waning day into nightfall. A steaming supper by lamp-light. The lounging hour before the fire, full stomachs, bodies tired by honest exercise, contented minds, tales of the day's happenings, dozing dogs on the hearth. Then, the journey home, the thankful welcome of a worried mother to a weary but happy boy, a hot bath, healthy and dreamless sleep.

Hunting License Revocations

(Continued from Page 28)

Name	Address	County
Stevens, Francis E., Ridgburg	Bradford	
Stoudt, Emerson M., R. D. 1, Bernville	Berks	
Strohl, Emerson, R. D. 3, Lehighton ..	Carbon	
Strunk, Paul, R. D. 1, Wernersville ..	Berks	
Stum, John Ira, Loysville	Perry	
Sullivan, Vincent J., R. D., Brookport ..	Elk	
Swander, Robert L., R. D. 1, Box 52, East Altoona	Blair	
Swartsfager, Guy Chas., 45 Roosevelt Ave., Buffalo, N. Y.	Non-Resident	
Swavey, Robert, Meadville	Crawford	
Sweeny, James D., 141 Liberty St., Clarion	Clarion	
Sweigart, Paul, R. D. 2, Ephrata	Lancaster	
Swenson, Gary Leon, Morrisdale	Clearfield	
Tate, Lloyd G., Rebersburg	Centre	
Tate, Wilmer Melvin, Arendtsville ..	Adams	
Tatters, William, Cramer, Stump Creek P. O.	Clearfield	
Taylor, Ralph, New Paris	Bedford	
Taylor, Robert, 15 Search St., Shick-shinny	Luzerne	
Tenney, Ray E., R. D. 2, Waterford ..	Eric	
Terry, Olin, R. D. 5, Tunkhannock ..	Wyoming	
Thompson, David Woodley, R. D. 3, York	Adams	
Tice, Herman S., R. D. 3, Lebanon ..	Lebanon	
Timko, John Pete, Morrisdale	Clearfield	
Trail, Hugh J., Warfordsburg	Fulton	
Trayer, Merle, R. D. 2, Rochester Mills	Indiana	
Tressler, Harry Wesley, Star Route, Apollo	Indiana	
Trick, Orris LaRue, R. D. 4, Muncy ..	Lycoming	

Name	Address	County
Twigg, Albert E., 823 Gullford St., Lebanon	Lebanon	
Tyger, Carl C., 98 Amm St., Bradford ..	McKean	
Tyger, Glade, Rochester Mills, R. D., Tysink, George, Lake Ariel	Indiana	
Vargo, John, R. D. 2, Milton	Sullivan	
Vysnnski, Andrew, Glassmere	Allegheny	
(Andrew Stelner)		
Wnble, Analda Eugene, R. D. 1, Fort Hill	Somerset	
Wagner, David Oscar, McAllsterville ..	Juniata	
Wagner, Harry R., Eagles Mere	Sullivan	
Wagner, Kenneth, 804 W. 5th St., Lewistown	Mifflin	
Walker, James Barton, R. D. 2, Huntingdon	Huntingdon	
Walker, James H., Flemington	Clinton	
Walker, John D., Flemington	Clinton	
Walker, Ned Lyle, Flemington	Clinton	
Walker, Robert M., Flemington	Clinton	
Wallace, John Reed, 102 N. Second St., Wormleysburg	Cumberland	
Ward, Paul, R. D., Bellefonte	Centre	
Washington, Harry, 421 Fairview Ave., Willow Grove	Montgomery	
Watson, Louis Calvin, R. D. 1, Fairfield	Adams	
Waughtel, Guy E., 2 Brenneman St., Lancaster	Lancaster	
Wayne, Lloyd George, R. D. 1, Sinking Springs	Berks	
Weaver, Jack Emerson, R. D. 5, Coudersport	Potter	
Weaver, Paul, Jersey Shore	Lycoming	
Weber, Charles Ellwood, 1631 Mulberry St., Reading	Berks	
Wegst, Leon G., Lords Valley	Pike	
Welsh, Albert Wm., R. D., Lock Haven	Clinton	
Welsh, John Lynn, R. D., Lock Haven	Clinton	
Werts, Edw. M., 5040 Kutztown Rd., Temple	Berks	
White, Clifford Isaac, 117 Penard Rd., Cynwyd	Montgomery	
White, Guy Alwin, R. D. 1, Pleasant Mount	Wayne	
Whiteman, Neil, R. D. 1, Titusville ..	Crawford	
Wilkins, Chas. Henry, Jr., Lawrenceville	Tioga	
Williammee, Clair, R. D. 4, Wellsboro	Tioga	
Williams, Arnold, 267 Mill St., Parsons	Luzerne	
Wilson, Raymond Victor, Worthington ..	Armstrong	
Windsor, Lewis E., R. D. 1, Turtle Point	McKean	
Wingert, Anthony, 211 Hanover Place, Bethlehem	Lehigh	
Wiser, Wm. Theodore, R. D. 1, Blairs Mills	Huntingdon	
Wolbert, Edward, Leeper	Clarion	
Wolfe, Charles Leslie, 111 North St., Danville	Montour	
Wolfe, Herman Frederick, 80 Montour Row, Danville	Montour	
Wood, Harry S., 2nd Ave. & 13th St., Conway	Beaver	
Woodward, Frank Lester, R. D., Honey Grove	Juniata	
Worthington, S. H., Gen. Del., Coudersport	Potter	
Yant, Frank, R. D. 1, Sewickley	Allegheny	
Yeager, Edward K., Sabinsville	Tioga	
Yost, Richard, R. D. 1, Stroudsburg ..	Monroe	
Yuchnis, Ignatz, 100 Mason St., Exeter	Luzerne	
Yurewick, Leroy, 679 Roosevelt St., Hazleton	Luzerne	
Zettlemoyer, Robert, R. D. 1, Ling-lestown	Dauphin	
Zimmerman, Chas. Henry, R. D. 1, Milroy	Mifflin	
Zimmerman, Richard H., 29 Central Ave., Lewistown	Mifflin	



Worm fences are being built around the Pymatuning Refuge and Game food bearing trees and shrubs are being planted along them.

COPY OF STATEMENT AS FILED WITH
ALLENTOWN POST OFFICE
SEPTEMBER 9, 1939

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of Pennsylvania Game News, published at Allentown, Pennsylvania for October, 1939.

Before me, a notary public in and for the State and county aforesaid, personally appeared Leo A. Luttringer, Jr., who, having been duly sworn according to law, deposes and says that he is the editor of the Pennsylvania Game News, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Penna.; Editor, Leo A. Luttringer, Jr., Harrisburg, Penna.; Managing Editor, William L. R. Drake, Harrisburg, Penna.; Business Manager, D. L. Batcheler, Harrisburg, Penna.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pennsylvania.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affidavit's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affidavit has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

Signed: Leo A. Luttringer, Jr.

Sworn to and subscribed before me this 8th day of September, 1939.

Signed: Robert I. Shreffler,

Notary Public.

[Seal]

Commission expires Aug. 2, 1943.

OFFICIAL 1939 OPEN SEASONS AND BAG LIMITS

Open season includes both dates given, Sundays excepted for game. **On November 1 no hunting of any kind before 9 A. M.** With this exception, shooting hours daily are 7 A. M. to 5 P. M., except from July 1 to September 30 inclusive 6 A. M. to 7:30 P. M., E. S. T. (See separate summary for Waterfowl and Coots). Traps may not be set before 7 A. M. on the first day of the season for trapping in open counties. Raccoons may be hunted at night.

UPLAND GAME (Small game possession limit three days' bag)	BAG LIMITS		SEASONS	
	Day	Season	Open	Close
Woodchucks (Groundhogs)	4	Unlimited	July 1	Sept. 30
Ruffed Grouse	2	10	Nov. 1	Nov. 21
Quail, Bobwhite	5	15	Nov. 1	Nov. 21
Hungarian Partridges (3 Counties)*	2	6	Nov. 1	Nov. 21
Wild Turkey (See below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, Males only	2	12	Nov. 1	Nov. 30
Grackles (commonly called Blackbirds)	Unlimited		Nov. 1	Nov. 30
Rabbits, Cottontails	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black, Fox (combined kinds)	6	20	Nov. 1	Nov. 30
Squirrels, Red	Unlimited		Nov. 1	Sept. 30, 1940
Raccoons, all counties by individual or hunting party	3	12	Nov. 1	Dec. 31
Raccoons, by traps (See counties closed below)*		12	Nov. 10	Jan. 30, 1940
Bear, over one year old by individual (see below)*	1	1	Nov. 15	Nov. 18
Bear, over one year old by hunting party of five or more*	2	2		
Deer, male with two or more points to one antler, except that last two days in 4 counties only antlerless deer may be hunted*	1	1	Dec. 1	Dec. 15
Deer, as above, by hunting party of 6 or more*	6	6		

NO OPEN SEASON—Reeves Pheasants, Chukar Partridges, Doves, Varying Hares (Snowshoe Rabbits), Elk and Cub Bears.

MIGRATORY GAME—Rails (including Sora), Gallinules, Woodcock, Snipe, (Wilson or Jack), Wild Ducks and Geese, and Coots (Mudhens) } Fixed by Federal Government. See summary issued with your hunting license.

FUR-BEARERS—(Traps not to be placed before 7 A. M. on opening dates).

Minks, Opossums, Skunks	Unlimited	Nov. 10	Jan. 31, 1940
Muskrats (by trapping only)	Unlimited	Dec. 1	Jan. 31, 1940
Otters (by traps only, in 4 counties)*	3	Dec. 1	Jan. 31, 1940
Beavers (by traps only, in 12 counties)* ...	3	Jan. 15	Jan. 31, 1940

* SPECIAL COUNTY REGULATIONS

HUNGARIAN PARTRIDGES—Hungarian Partridges may be killed only in the counties of Lycoming, Montour and Northumberland.

TURKEY—No Turkey season in Cameron, Elk, Forest, Jefferson, McKean, Potter, Sullivan and Warren Counties.

RACCOON TRAPPING—No Raccoon trapping in Berks, Bucks, Cambria, Carbon, Chester, Delaware, Lawrence, Mercer, Montgomery and Schuylkill Counties, except by certain landowners. The Raccoon season bag limit is 12 for hunting and trapping combined.

BEAR—No Bear season in Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin and Perry Counties.

† DEER—On December 14 and 15 only antlerless deer may be hunted for and killed in Forest and Warren Counties, that part of Potter County lying north of U. S. Highway 6, and that part of Jefferson County lying northwest of U. S. Highway 119, by persons who have not killed a deer or aided in killing the hunting party limit.

OTTER TRAPPING—Otter trapping only in Monroe, Pike, Susquehanna and Wayne Counties.

BEAVER TRAPPING—Beaver trapping only in Allegheny, Bradford, Clarion, Columbia, Crawford, Elk, Forest, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Schuylkill, Snyder, Susquehanna, Tioga, Union, Venango, Wayne and Warren Counties.

SNARES—Snare without springpoles may be used for taking predators only in Cameron, Clarion, Elk, Forest, McKean, Potter and Warren Counties between December 16 and March 31, 1940.

OBEY THE LAW » » » HELP YOUR PROTECTOR

Stop the cheater by reporting his license number! Automobile license numbers will help too!

The vast majority of Pennsylvania's hunters are real sportsmen, and observe the law. They can help themselves by reporting promptly those who violate. (Use the list below:)

DISTRICT GAME PROTECTORS

COUNTY		Phone
Adams	R. C. Anderson, 145 Buford Ave., Gettysburg	249
Allegheny	R. A. Liphart, 334 East Eleventh Ave., Homestead	1550
Armstrong	R. H. McKissick, Route 3, Kittanning	2082J
Beaver	J. Bradley McGregor, 1099 Turnpike St., Beaver	9095
Bedford	John S. Dittmar, Loysburg	7
Berks	Merton J. Golden, 5 Park Ave., Pennside, Reading	4-5850
Blair	C. C. Brennecke, 1520 Twenty-first Ave., Altoona	2-6974
Bradford	Rodman C. Case, 927 Main St., Towanda	337
Bucks	S. Earl Carpenter, Doylestown	
Butler	Elmer B. Thompson, 396 Coleman Ave., Johnstown	3591
Cambria	Troy C. Burns, Butler	
Cameron	Maxwell N. Ostrum, 321 Third St., Emporium	4482
Carbon	W. C. Achey, 311 First St., Weatherly	4741
Centre	Thomas A. Mosier, Bellefonte	
Chester	Jarvis E. McCannon, 83 South Fifth St., Coatesville	191
Clarion	H. J. Updegraff, Shippensburg	302R1
Clearfield	Frank E. Couse, Clearfield	
Clinton	Miles L. Reeder, Route 1, Lock Haven	108
Columbia	M. L. Hagenbuch, 295 Penn St., Bloomsburg	692
Crawford	George W. Keppler, 255 Locust St., Meadville	1146
Cumberland	Joseph M. Foreman, 239 West South St., Carlisle	234J
Dauphin	Mark P. Motter, 4231 Elmerton Ave., Colonial Park	3-5153
Delaware	B. J. Davis, 436 East Baltimore Ave., Media	295
Elk	Edward L. Shields, Eschbach Road, St. Marys	5050
Erie	John G. Kennedy, Erie	
Fayette	Theodore T. Schafer, 16 Wilmington St., Uniontown	3794
Forest	Carl B. Benson, Tionesta	189
Franklin	W. W. Britton, 573 East Catherine St., Chambersburg	195
Fulton	Isaac Baumgardner, South Second St., McConnellsburg	22
Greene	John F. Blair, 465 East Greene St., Waynesburg	267
Huntingdon	Thomas F. Bell, 407 Sixteenth St., Huntingdon	158
Indiana	O. M. Pinkerton, 21 South Twelfth St., Indiana	1934
Jefferson	Lester J. Haney, Brookville	707W
Juniata	Herman W. Fisher, 611 Washington Ave., Mifflintown	176
Lackawanna	Francis E. Jenkins, Layton Road, Chinchilla	367R2
Lancaster	J. M. Haverstick, 741 College Ave., Lancaster	5540
Lawrence	Frank L. Coen, Route 5, New Castle	5211
Lebanon	Philip H. Melching, 409 Gannon St., Lebanon	681
Lehigh	William A. Moyer, 25 North Eighteenth St., Allentown	2-6739
Luzerne	Phillip S. Sloan, 75 East Bennett St., Kingston	7-5382
Lycoming	Frank F. Crosby, 1442 Memorial Ave., Williamsport	2-7313
McKean	William J. Carpenter, Mt. Jewett	2521
Mercer	George L. Norris, 434 Greenville Ave., Mercer	6
Mifflin	Ralph E. McCoy, 317 Logan St., Lewistown	2916
Monroe	Arthur N. Frantz, 75 Elk St., East Stroudsburg	1272
Montgomery	Ambrose Gerhart, 141 Central Ave., Souderton	873
Montour	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Northampton	Morris D. Stewart, 1535 Northampton St., Easton	2-2023
Northumberland	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Perry	Hugh H. Groninger, New Bloomfield	80
Philadelphia	E. W. Stucke, 7806 Verre Ave., Philadelphia	4813
Pike	John H. Lohmann, 111 Catherine St., Milford	240
Potter	Arthur G. Logue, Coudersport	278
Schuylkill	Leo E. Bushman, 76 Pottsville St., Cressona	370
Snyder	Clarence F. Walker, Beavertown	16R31
Somerset	John Spencer, 354 West Garrett St., Somerset	139
Sullivan	Robert Latimer, Muncy Valley	15R2
Susquehanna	William D. Denton, New Milford	16
Tioga	L. H. Wood, 3 Eberenz St., Wellsboro	196R
Union	Fred S. Fisher, 400 Green St., Mifflinburg	6257
Venango	William T. Campbell, 523 Liberty St., Franklin	1107
Warren	Lawrence E. Linder, 105 Monroe St., Warren	1689
Washington	Carl C. Stainbrook, 52 Harrison St., Washington	566
Wayne	Maynard R. Miller, 30 Stanton St., Honesdale	676
Westmoreland	R. D. Reed, 1610 Ligonier St., Latrobe	1140W
Wyoming	Ralph E. Flaugh, 105½ Warren St., Tunkhannock	3671
York	A. C. Ganster, 520 Girard Ave., York	7434

Space does not permit listing the Game Protectors on special assignment, those in charge of Land Management, and the large corps of Deputy Game Protectors.

PGC P-63
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PGC P-63
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This Refuge is provided so that Wildlife may have a place to escape and breed in safety.

Entering this Refuge for the purpose of hunting or disturbing Wildlife or permitting dogs to enter is punishable by a penalty of

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This Refuge established to cooperate with the
PENNSYLVANIA GAME COMMISSION

PENNSYLVANIA GAME NEWS



NOVEMBER 1939
TEN CENTS

Wolf

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Photo by Mrs. Wm. C. Fisher.

Two days bag of grouse by Col. Wm. C. Fisher, Col. Lynn G. Adams and their companions in Northern Pennsylvania, season of 1938.



CALL OF THE WOODS

by Hon. Grover C. Ladner
(Copyright)



Some there be that like the Winter;
Some there be that favor Spring—
Others still, prefer the Summer,
But it is of Fall I sing.

When the leaves, all turned to yellow
One by one begin to fall,
Then awakes my hunting spirit
Answering Dame Nature's call.

Thru the woods and fields I wander
O'er the leafy covered ground,
With a gun upon my shoulder
Followed by my faithful hound.

Z-ip a rabbit springs from cover
And my dog begins to bark,
Brings him round to where I'm standing
'Till my shotgun finds its mark.

Be it hare or be it rabbit,
Be it pheasant or a quail,
The rush of all renew the spirit
And strengthens limbs about to fail.

If it be, as sometimes happens,
Nothing falls before my gun,
I am not so disappointed
For I've had a day of fun.

Ye who sit at home complaining
Of the bleak and somber Fall;
Take a hunt some early morning
Out in Nature's Open Hall.



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Game... A Natural Resource

I AM pleased to note the attention that has been directed recently to intelligent management of game, one of the country's important resources. Information from Wood county, Ohio, indicates farmers there have realized that game is a crop that may be increased by an intelligent program of production and an orderly plan of harvest. Moreover, these Ohio people have shown that certain types of game may be produced without interfering materially with production of other crops in rich farming sections where there is little or no waste land.

In many agricultural areas the percentage of tillable acres is far below that in Wood county. There are numerous tracts, ranging from a fraction of an acre upward, that will yield a higher return from game than from grain and forage crops. In planning intelligent use of land we might well consider retiring some marginal crop acres and fitting them for maximum game production. That would seem sound management in all regions but it would be especially desirable in areas devoted to crops that may easily be produced in excess of need, for game is one crop that shows no immediate prospect of producing a surplus.

The Bureau of Biological Survey has initiated a national program for migratory waterfowl that gives a hint of what is possible on a smaller unit basis for non-migratory game. When Jay N. Darling was chief of the Bureau, he inaugurated a policy of reflooding drained marshes that formerly had served as resting, nesting and feeding areas for ducks, geese and other waterfowl, and protecting species rapidly nearing depletion. The country's waterfowl population, which had been decreasing for 50 years and had dropped from 100 million in 1920 to less than 30 million in 1935, began to show an increase that speeded up as more refuges were completed. Annually the Survey makes an inventory in January, and that of 1939 indicates that the number has climbed back above the 50 million mark.

I believe what has been done nationally for waterfowl can be done on a farm and community scale for other types of game. Such a plan might double, treble or quadruple game numbers in a few years.

Some native game species, such as the bob white quail and the cottontail rabbit, and at least one introduced species, the ring-necked pheasant, find agriculture to their liking if it is not too intensive. The bob white, I am informed, increased rapidly with the advent of agriculture in the Ohio, Mississippi and Missouri valleys, and showed no alarming decrease until clean farming methods, cleared fence rows, over-grazing and breaking of native grass meadows destroyed natural cover that afforded suitable nesting sites and a means of escape from predatory enemies.

I am told that many farmers who once took pride in their clean farms have realized that their extreme neatness makes survival of game impossible, and that they again are letting brush grow in fence rows and are fencing off waste areas for the benefit of game. If this reversal of farming practice spreads, as I hope it will, we may expect the supply of game to increase.

Another encouraging factor in game conservation is insistence by voters that state game resources be more efficiently administered. The number of states in which fish and game departments are being placed in the hands of conservation experts is growing steadily.

Two states recently have safeguarded their game departments by constitutional amendments. In both cases the amendments were adopted by overwhelming majorities, showing conclusively that the people were deeply concerned in conserving a fast waning resource. Missouri adopted its amendment in 1936 and Idaho in 1938.

Another state, Kansas, has reorganized its forestry, fish and game department by vesting control in a bi-partisan commission composed of three Republicans and three Democrats. This is a step in the right direction.

The Missouri commission employed as its director a man fitted for the job by education and experience. He immediately surrounded himself with helpers who had prepared themselves for game management work as a life career. I hope those states which have not yet taken this important action soon will follow Missouri's lead. Farmers and sportsmen everywhere should demand that type of efficient administration. License money paid by hunters and fishermen and that appropriated by state legislatures still is being wasted in too many instances because game commissions with personnel technically unfitted for their work put fish in streams and lakes where there is no food to support them and continue to stock game birds and animals where food, cover, nesting conditions and other environmental factors are such that survival is impossible.

Wildlife research demonstration units have been set up in ten land grant colleges. These are maintained by cooperation of the American Wildlife Institute, the Bureau of Biological Survey, state game commissions and the colleges themselves. They study wildlife problems and demonstrate results of their research. Members of the units teach wildlife courses in the colleges and much of the research is done by graduate students. These colleges in June graduated 113 persons with wildlife training—the wildlife experts of the future. These courses are new and the number of graduates should increase annually. As these men become available the last excuse for putting game departments in the hands of untrained workers will have been removed. I hope game commissions will employ these students as technical experts as they are available and place them in administrative positions when their age and their executive ability warrant it. It is my belief that even game wardens should be technically trained men who could spend much of their time advising land owners in game management problems much as county agents advise them with reference to livestock and field crop production.

In this connection I am pleased to note that the extension division of Texas State College has recognized game as one of the important farm crops and that it has, thru an extension game specialist and the county agents, set up as extension projects, wildlife demonstration and management areas that cover more than 20 million acres in 172 of the state's 254 counties. Indicative of the wide farm interest in such matters is the fact that no other extension project in the state ever met with such enthusiastic reception. It was the intent in the beginning to set up projects in a few counties as a test, but land owners in other counties heard of the work and would not permit it to stop there. In some of these areas game numbers have been doubled in less than two years. Hunters who were not land owners were skeptical at first but became enthusiastic backers of the movement when they learned of the great game increase that came with the type of management that was made possible by cooperation. This Texas idea seems sound to me and I hope to see it widely adopted.—Hon. Arthur Capper in CAPPER'S FARMER for Sept. 1939.



THE GROWTH AND SIZE OF PENNSYLVANIA BLACK BEARS

By RICHARD GERSTELL

Introduction

THE history and folklore of Colonial America abound with references to the black bear. Down through the years, countless thousands of "bear stories" have been told and retold. Due largely to these numerous anecdotes, the animal has come to be the symbol of ferocity, strength and unusual size.

In Pennsylvania at the present time, the black bear ranks with the wild turkey as one of the two most highly prized trophies legally to be taken by the hunters. Eagerly sought after by thousands of gunners, the species is still the subject of many new, and even more "remodeled", bear stories. Likewise, its size and rate of growth are subjects of endless debate. This is due, at least in part, to the fact that under the Game Law of the Commonwealth, cub bears of less than one year of age are afforded full legal protection and may not lawfully be taken in any manner or at any time.

Feeling that it may prove of general interest and hoping that it may help in some measure to reduce the number of cub bears illegally killed during each open shooting season, the writer will attempt in the following paragraphs to outline certain of the facts now known about the rate of growth and size of Pennsylvania black bears.

The Mating Season

Present day knowledge of the mating habits of the various species of bears is exceedingly meager. Seton (1929) has given certain information relative to the breeding habits of captive bears, while Grinnell, Dixon and Linsdale (1938) record the actual observance of the mating of two wild specimens in California. These records, as well as other data gathered by the writer, would appear definitely to establish the fact that in the wild late June and early July represent the height of the mating season for black bears, even though many woodsmen believe that the animals normally breed in October and November.

Embryonic Development

For several reasons the embryology of the black bear is of particular interest. In the first place, it is known that compared to

the mature individual, the new-born bear cub is proportionately very small. Secondly, the embryo's later stages of development are passed through while the pregnant female is in hibernation.

Though the full story of development is not yet known, the writer has made a number of interesting observations on the problem during the past six years. Principal among these has been the discovery that during the hunting season, which has consistently taken place between November 10 and December 15, and in most instances either in late November or early December, the embryos ranging from one to four in number, are surprisingly uniform both in size and development, averaging about 0.70 inches in total length and weighing approximately 0.0015 pounds. The head and mouth, including the tongue, the feet, the tail and other organs and appendages are well developed. A typical specimen is shown in Figure 1 where its size may readily be compared to a one inch division of a one foot ruler.

It may well be that because of their smallness, the embryos are rarely found by the hunters and that for this reason those persons are inclined to believe that the animals have mated only a short time before, as previously mentioned.

Since the young are most frequently born in late January or early February, and since they are at the time of birth only from six to nine inches in length, weighing from 0.45 to 0.75 pounds, the comparatively small size of the foeti in late November and December would appear of significance. At this time approximately 70% of the seven-month period of gestation has elapsed. Thus, it is obvious that development during the last 30% of the period is, with respect to volume, many times faster than during the first five months, and that it is principally concerned with the enlargement of structures already formed.

This fact is of importance because, at least in Pennsylvania latitudes, late November or early December represents the exact season when the majority of bears first start their annual period of hibernation. It would indeed be of interest to know whether the increased development during the last two months is the result of the female's inactivity during the winter's sleep, or whether the initiation of accelerated growth is merely coincident with entry into somnolence.

Early Growth

The time of birth and the size of the new-born cubs has previously been discussed. At that time the animals are practically naked, being covered only with a very thin coat of many fine, black hairs. The eyes are tightly closed and remain so for a number of weeks.

Wild cubs which the writer has observed in the dens with the mothers in the first part of March, when probably about six weeks of age, have been estimated to weigh slightly more than three pounds each. The fact that the eyes had opened would tend in the case of wild specimens to fall in line with Thompson's observations, noted by Seton (1929), to the effect that two captive-born cubs opened their eyes on the fortieth and forty-second days after birth. Close observation of captive-reared cubs has, however, early shown that until about twelve weeks of age, the ability to focus the eyes so as to "make out" even moving objects several times the cubs' own size is notably weak. Up to that age, it would appear that the nose and ears are mainly depended upon for orientation.

Nine wild cubs deserted by their mothers during March 1937, because of too much human disturbance, were found during the latter part of that month to weigh from 4.23 to 5.98 pounds, averaging 5.02 pounds. Thus, at approximately two months of age the average weight of Pennsylvania blackbear cubs may be considered to be roughly five pounds.

Assuming that the average weight of the cubs at the time of birth is 0.60 pounds, the animals would then appear to have gained, on the average, 4.40 pounds during the first two months after birth. Thus, the average gain per 30-day month would be 2.20 pounds per animal, or 0.07 pounds per cub per day.

Such a rate of growth seems quite unusual when due consideration is given the fact that it takes place while the females are in hibernation, and that the cubs may number from one to four. The successful fulfillment of such food requirements seems even more interesting since there is at least one authentic record (Underwood, 1921) of a very young bear cub's having been breast-reared by a white woman in the woods of Northern Maine and since, with human milk, that individual exhibited a growth rate similar to those of cubs cared for by their own mothers.

Growth Outside the Den

Since the cubs usually leave the den during late March or early April, when their average weight approximates five pounds, it appears that the rate of growth must increase appreciably following the time when the animals first begin to wander through the woods with their mothers.

This statement is based on the fact that cub bears illegally taken during late November and early December, when about ten months of age, have been found to average more than fifty pounds in



Figure 1. One of two embryos from a bear killed in early December.

weight. This figure is based on statistics obtained from twenty-two specimens taken in Northern Pennsylvania during a three year period. The individual weights are listed in Table I.

TABLE I
DRESSED WEIGHT OF ILLEGALLY KILLED BEAR CUBS

Year	1935	1936	1937
Open Season	Dec. 6-8	Nov. 23-26	Nov. 10-15
Dressed Weights	33 lbs.	37 lbs.	38 lbs.
Dressed Weights	40 lbs.	43 lbs.	40 lbs.
Dressed Weights	45 lbs.	43 lbs.	41 lbs.
Dressed Weights	47 lbs.	44 lbs.	47 lbs.
Dressed Weights	51 lbs.	46 lbs.	63 lbs.
Dressed Weights	52 lbs.	47 lbs.	73 lbs.
Dressed Weights	55 lbs.	51 lbs.	
Dressed Weights	61 lbs.	52 lbs.	
Total Weight	384 lbs.	363 lbs.	302 lbs.
Average Weight	48.0 lbs.	45.4 lbs.	50.3 lbs.
Total Dressed Weight of All Specimens.....			1049 lbs.
Average Dressed Weight of All Specimens.....			47.7 lbs.

Knowing the average dressed weight of the immature animals, it is possible, with information relative to the comparative live and dressed weights of blackbears, to estimate the live weight of the ten-month-old cubs. Figures showing the weight loss encountered in hog-dressing bears of various sizes are listed in Table II.



Figure 4. Skull of bear cub (left) 10 months old showing early canines (dog teeth) being replaced by permanent teeth. The skull of a mature specimen with permanent canines is shown at the right.



Figure 5. Hibernating bear with cub.

TABLE II
COMPARATIVE LIVE AND DRESSED WEIGHT OF
BLACKBEARS

(Late November and early December records)

Sex	Live Weight	Dressed Weight	% Loss
Male	261	222	14.8%
Male	202	171	15.4%
Female	173	147	14.1%
Female	63	55	12.5%
Female	60	52	13.6%

Average % of Loss—14.1%.

Assuming from the above statistics that the dressed weight of bears represents approximately 86% of the live weight, computation based on the weights of the twenty-two cubs previously listed would indicate that the average live weight of ten-month-old (taken in late November) cubs is just over 55.5 pounds.

Since the weight of the cubs at the time they first leave the den approximates five pounds, it follows from the calculations above that the animals gain approximately 50 pounds during the eight month period extending from the end of March to late November. This represents an average gain of approximately 6.25 pounds per animal per 30-day month, or 0.208 pounds per cub per day.

This figure is particularly interesting when compared to that obtained from daily records of two cubs held in captivity. The animals in question were two, from a litter of three, male bears deserted by their mother on or about March 8, 1937. They were held in captivity until the middle of August, and for a period of over fifty consecutive days their daily weights were accurately determined and listed. A summary of the weight chart is presented in Figure II.

As indicated in the graph, the two bears weighed 5.07 and 4.92 pounds on March 15th. By July 31, 140 days later, the respective weights of the two cubs were 30.12 and 29.75 pounds. Thus, the

average daily gain was 0.178 pounds per day in the case of the larger animal and 0.179 pounds per day for the smaller one. This represents an average monthly gain of 5.36 pounds, or 0.89 pounds less than the figure arrived at by working out the weight differences over an eight month period as previously described.

Careful study of the weights recorded between April 5 and May 24 will reveal a number of interesting points. During that 50-day period, the larger of the two bears gained, on the average, 0.2 pounds per day, while the comparative figure for the second specimen was 0.191 pounds. The combined average was, therefore, 0.195 pounds, which is surprisingly close to the eight month period figure of 0.208 pounds per day for wild animals.

Secondly, the chart clearly indicates that the weight change varies widely from day to day, ranging from a loss of 0.31 pounds to a gain of 0.75 pounds. For example, on May 21 the larger bear exhibited a 0.75 pound weight gain following a gain of 0.50 pounds during the previous day. Computation shows that this change represents 4.4% of the animal's total body weight. The cubs were weighed between 6:00 and 7:00 p. m. each day, immediately preceding the evening feeding and six hours after the last previous meal. (Figure 3).

Food Consumption

During the first half of the 50-day period, the cubs were fed only skimmed cow's milk, containing approximately one teaspoonful of granulated sugar and like amounts of cod liver oil added to each quart of the food. Toward the end of the experiment, the animals received each day up to six slices of common baker's bread soaked in the milk. Thus, it is interesting to note, in the chart presented in Figure II, the daily and total food consumption of the animals. Study of the graph will reveal the fact that, on the average, the animals ingested every twenty-four hours food amounts equal roughly to one-half their total body weight. Also, it will be found that each one-pound gain in body weight was accompanied by an intake of approximately 26 pounds of food.

Hibernation

Little is known about the bodily changes which take place during the hibernation of bears. It would appear that the time of entry into winter sleep is largely dependent upon climatic conditions, particularly temperature. In Pennsylvania latitudes, some few bears, presumably males, are known during the most mild and open seasons occasionally to remain active throughout the entire winter. Also, the animals appear to reach their maximum annual weight in late November or early December when they would normally first go into hibernation.

There must be a relatively large loss in body weight during somnolence, but those hibernating bears closely observed by the writer appeared to be "in good flesh". Furthermore, animals observed within a few days after leaving the den in March have been noted to be in fair condition. The same observations have been made by Seton (1929) and others. Thus, the percentage of weight lost during hibernation is not definitely known, but it would not appear unusually high as the animals apparently are in poorest condition in late spring, several weeks after first becoming active.

Yearling and Adult Weights

Even though the weight loss during hibernation is not definitely known, it is possible to arrive at certain interesting, though theoretical, figures as to the average late fall weight of yearling and adult Pennsylvania black bears. If, based on the 50-pound gain exhibited by cubs during their first summer, we assume that older bears gain at the same rate, and if we disregard the weight changes during hibernation, we might conclude that the weight of bears of different ages is as shown in Table III.

TABLE III
ESTIMATED AVERAGE WEIGHTS OF BLACKBEARS
(Figures pertain to late Fall)

Age	Estimated Average	Estimated Range
Cubs (10 months)	55 lbs.	30 to 80 lbs.
Yearlings (22 months)	105 lbs.	80 to 130 lbs.
2 year-olds (34 months)	155 lbs.	125 to 185 lbs.
3 year-olds (46 months)	205 lbs.	180 to 240 lbs.
4 year-olds (58 months)	255 lbs.	215 to 295 lbs.
5 year-olds (70 months)	305 lbs.	255 to 350 lbs.

(Older animals up to 600 pounds).

The weights presented in Table III would, of course, represent the live weights of the animals, which run from 10% to 15% higher than the hog-dressed weights.

It is believed that the figures presented in the table are reasonably accurate, but the fact must be stressed that the age of a bear can accurately be told only by detailed examination of the size and condition of the teeth and other skeletal structures, and that even determinations of this type are also subject to error.

Maximum Size

During recent years, the writer has weighed a large number of bears killed in Pennsylvania during the open shooting season. To date, the largest animal recorded during these investigations was a specimen from Wyoming county which totaled 473 pounds hog-dressed, three days after death. This, however, does not necessarily represent the largest bear killed in the State during recent years, nor is it the largest kill on record. Gordon (1924) gives the statistics for the Commonwealth's record specimen. In part these are as follows: Weight as killed, 633 pounds; weight hog-dressed, 538 pounds; length, nine feet; and distance between tips of the ears, nineteen inches. The animal was taken December 4, 1923 near Milford, Pike county.

To give some idea of the size of a large bear, the dimensions of a captive animal at the Harrisburg Zoo, at Harrisburg, Pa., estimated to weigh approximately 450 pounds are summarized herewith: Height at shoulder in normal standing position, 34 inches; length in normal standing position, 62 inches; height (to tip of nose) standing on hind feet with nose stretched upward, 80 inches; and girth, 42 inches.

Conclusion

In closing, it may be stated that, in general, the black bear is an animal proportionately very small at the time of birth, but exhibiting a rapid rate of growth, sometimes even up to the sixth or seventh year of life, and ultimately reaching a size common only to the largest species of North American game animals.

Finally, let it be said that since a bear's age can definitely be told only by examination of its teeth as shown in Figure 4 and since such action is impossible in the woods, the safest rule for the hunter is steadfastly to refrain from shooting at any animal which he has any reason to believe might weigh less than 100 pounds.



Figure 3. Weighing a cub just before feeding.

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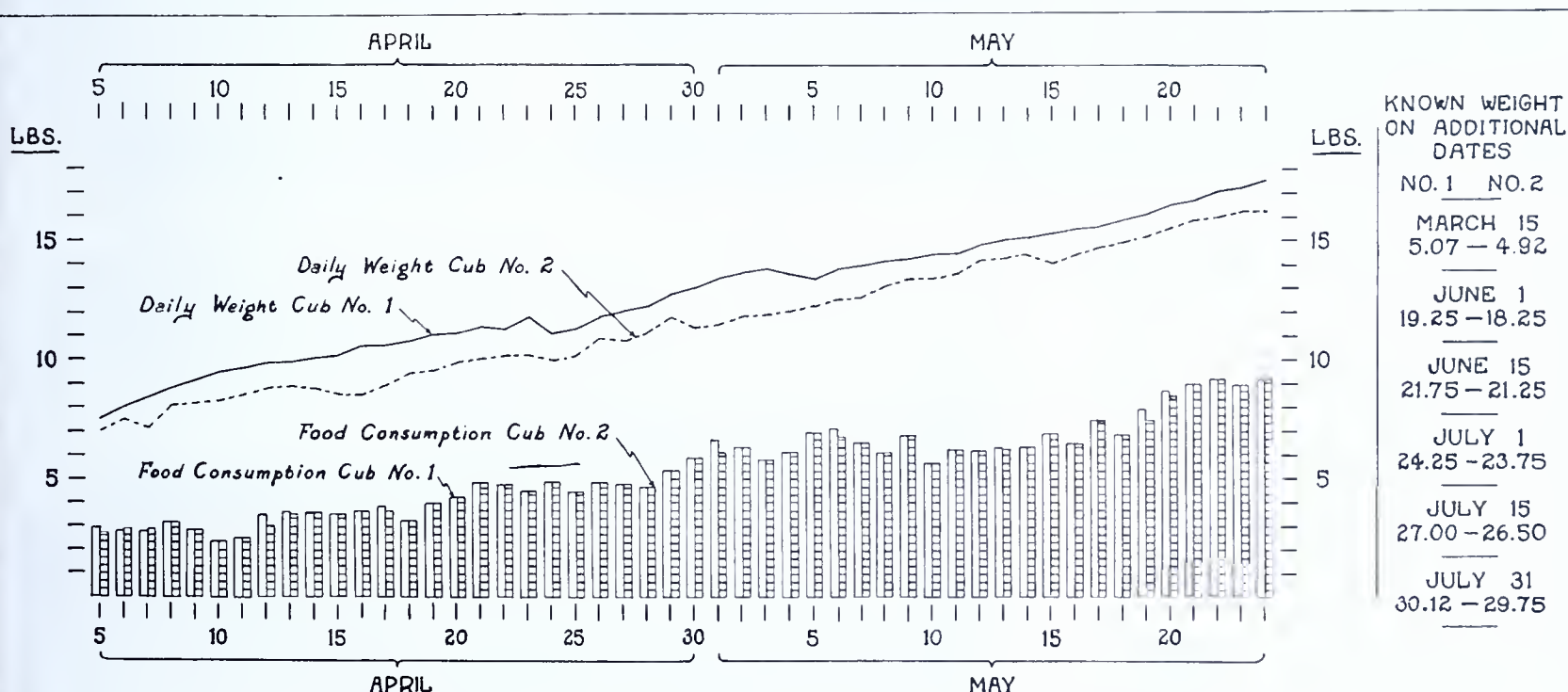
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DAILY WEIGHT AND FOOD CONSUMPTION OF TWO CAPTIVE BLACKBEAR CUBS

TOTAL FOOD CONSUMPTION (50 DAYS) — CUB NO. 1 279.78 LBS. — CUB NO. 2 278.05 LBS.

TOTAL GAIN IN BODY WEIGHT (50 DAYS) — CUB NO. 1 10.95 LBS. — CUB NO. 2 10.61 LBS.

R GERSTELL '39

Figure 2.

FOREST IN ITS

W. E. MONTGOMERY*



Open areas such as these, with brush heaps scattered here and there, provide places where game can find plenty of food and shelter.

FORTY years ago, when the present State Forest system now embracing more than 1,650,000 acres, was in its infancy, Dr. J. T. Rothrock, in advocating the acquisition of forest lands by the Commonwealth stressed the point that they were intended not only for the production of wood, but also to control floods, to provide health centers and to assure outdoor recreation to all the citizens of the State. On this broad, far-reaching and sound policy the State Forests of Pennsylvania had their genesis, and today they are being administered in accordance with that selfsame policy.

It would be foolish, as well as untruthful, to claim that the actions and decisions of the Department in attempting to follow this policy, have not been subjected to criticism; and it would be just as futile to aver that many of those criticisms were not justified. The users of the State Forests represent every walk of life, persons of every conceivable taste and inclination. There are those who view the State Forests only as a splendid hunting ground where game prevails in great abundance; there are those who detest the idea of killing birds or animals of any kind, even the predators who live from the destruction of other forms of life; there are those who would like to have broad thoroughfares, well-paved highways extending throughout the State Forests reaching into every nook and corner in order that they might enjoy the beauties of the forest without the need of stepping out of their cars; there are those on the other hand, who would prefer to have no roads whatever and only a few footpaths, lovers of the primitive and the primeval, advocates of the so-called wilderness areas untouched by the hand of man; there are those who are intent only upon the aesthetic side of the forest, upon the inspiration which they receive from a visit to the woods, no matter how limited that visit may be; then there are those to whom the beauties of nature mean nothing, who have no interest in hunting or fishing or picnicking, intensely practical people who

view a tree merely as so many board feet of lumber.

That is somewhat exaggerated, yet nevertheless fairly typical, cross-section of those with whom the Department comes in contact in its management of the State Forests; and strangely enough, or maybe it isn't so strange after all, so many people can see the picture only in the light of their own interests, and many of them are somewhat amazed to learn that other persons happen to see things from a directly opposite viewpoint. For the most part, these people are the actual owners of the land, citizens of the State, stockholders of the great corporation, one unit of which is engaged, among other duties, in operating the State Forests, operating them for the use, enjoyment and benefit of the real owners. In representing these owners, the Department, as manager, should be properly responsive to the great diversity of desires that are expressed. Through all these many divergent opinions, the Department, in its

management of the State Forests, endeavor to steer its course in a practical common sense manner whereby the best interests of all the people will be most wisely conserved. In attempting to do this, mistakes are made of course. Throughout most of its history, the Department has been quite conservative considering thoroughly, and sometimes perhaps at too great length, any proposed changes in policy and procedure. As a result it sometimes, in the vernacular, "misses the boat". As an example, the Department probably hesitated too long in establishing a definite, forward-looking policy in connection with the use of the State Forests for recreation—and then more recently in its development work became stampeded into certain methods and procedure which were not of the very best.

From the beginning, and particularly in the early days of forestry in Pennsylvania, when foresters were closer to the woods than their manifold duties now permit, most of the technical personnel of the Department have been hunters and fishermen. Consequently, aside from their professional standpoint, they have been intensely interested in the protection and propagation of game. I must be admitted, however, that their interest was manifested primarily in the protection of the forests from fire, the enforcement of the game laws, and the occasional liberation of game. It must also be admitted that sometimes the forester looked upon the game official as an interloper in his (the forester's) own personal domain. Usually however, that feeling resulted from a clash of personalities rather than from any con-



This area, left barren by the cutting of chemical wood, will soon sprout a tender growth of trees and shrubs for wildlife.

* Chief, Division of Management, Department of Forests and Waters.

MANAGEMENT ON STATE FORESTS RELATION TO WILDLIFE

dict of opposing objectives. The forester, from the outstart of forest activities in this State, has always regarded game as an important product of the forest, but not the major product, not the one most important product. Until recent years, however, he did little about it, except for the several phases of activity mentioned above.

As a matter of fact, most of his forestry work was concerned with protection and planting, and forestry had not yet progressed to the point where, in the vast majority of cases, cultural operations were justified—or if justified, they were probably out of the question because of lack of funds. To some extent, that day is passed. The establishment of the C. C. C. and the advent of various relief agencies have made possible numerous types of work which could not be accomplished, if the Department were compelled to depend entirely upon State appropriations. And in doing these various kinds of work, the Department is cognizant that their effect upon game as well as other products of the forest must be given due consideration. The Department is not only concerned with the protection and growing of timber but it is interested in maintaining as large a game population as can properly be supported. The Department holds to the belief that it is proper and appropriate to sacrifice a certain amount of forest growth in order that game may be sustained. On the other hand, it also feels that when the game population becomes too great for the food supply which is available, prompt and drastic action should be taken to remedy that condition.

And frankly, it views with considerable distaste the thousands of acres of waste land on the State Forests which cannot be restored to productivity by the means of plantations because the deer destroy the trees as rapidly as they are planted.

Quite a bit has been said, not only in Pennsylvania, but elsewhere, about the antagonism which some foresters exhibit toward game management practices,—and vice versa. Personally I can see no reason whatever why any conflict of ideas should arise between foresters and game managers which cannot be settled satisfactorily to all parties concerned by negotiation of open-minded representatives of both points of view. During the three and one-half years prior to April 1st when I returned to State service, I was Associate Forester and later Chief Forester of a Federal agency whose principal claim to the right of existence was the fact that it did not follow the course of numerous so-called old-line agencies with only a single principal objective, but stressed the multiple use of land—forestry, wildlife, grazing, subsistence units, and recreation, and in that work as never before, I found that multiple use is primarily a problem of sensible coordination.

But, you may say, "All these optimistic statements about coordination, cooperation and conciliation are good enough in their

place; they sound well, but platitudes are a poor substitute for action. What is your Department actually doing toward the betterment of conditions on the State Forests as they affect the sportsman and the game population?"

That is a fair question and to best answer it, possibly it would be well to cite some of the criticisms that have been directed toward the Department's work and then indicate the attempts which have been made to meet those complaints.

When the C. C. C. camps were first established one of their principal activities was the building of forest roads and trails in

arrangements were made to block certain roads in such a way as to exclude ordinary traffic and use them only for protection and administrative purposes. This last procedure is being continued, and this fall numerous roads will be closed—in fact, probably more than usual, since maintenance funds are somewhat limited and some roads will be closed in order to save the cost of repairing them after heavy use in bad weather.

Sportsmen have also complained about the undesirable effects of improvement cuttings, and as a result of such complaints, the instructions governing such operations were revised and submitted to the Game Com-



Photos courtesy Dept. Forests and Waters

When cleared areas reach their first, second and third year growths they provide admirable hiding and feeding places for game.

order to make the State Forests readily accessible in case of fire, and thereby decrease the acreage and intensity of forest fires. Numerous protests were received, particularly in the central part of the State, that the opening of these areas would augment the number of hunters and increase their opportunity of securing game to such an extent that the latter would soon face extermination. Although the Department in most cases felt that the advantages accruing from such roads and trails in the combatting of forest fires would probably outweigh all other considerations, yet an effort has always been made to work out some adjustment which would be mutually satisfactory. Sometimes work on a particular road or trail was ceased when it was not deemed absolutely essential; sometimes another location was chosen which was not as objectionable to the sportsmen and yet to a considerable degree would serve the same purpose; in other cases

mission in order to eliminate the features to which justifiable objections had been raised. Near the beginning of the Regulations for Timber Stand Improvement will be found this statement—"Another point to be considered in forest management is that of a game crop which must depend for its existence on trees, shrubs, vines and forest weeds for food and cover. Although the game crop is of secondary importance to timber, its economic value to the public is so large that it must not be overlooked." This is further recognized under the "Objectives of Timber Stand Improvement," when it is stated, "(b) The maintenance of proper relation between timber management, wildlife management, recreation and other uses of the forest." Under specific instructions, appears this—"Every effort will be made to meet the requirement of wildlife management by not cutting game food species unless it is un-

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Conservation - Nationally and Internationally

A brief resume of the proceedings of the Western Association of State Game and Fish Commissioners, the American Fisheries Society, and the International Association of Game, Fish and Forestry Commissioners.

By Seth Gordon



The Elk herd in Jackson Hole, Wyoming, has always been a problem of management.

IT was my privilege the latter part of June to represent the Pennsylvania Game Commission at the annual meetings of the Western Association of State Game and Fish Commissioners, the American Fisheries Society, and the International Association of Game, Fish and Conservation Commissioners together with a special conference of the Biological Survey and the U. S. Bureau of Fisheries, all held in California and very well attended.

It would take too much space to recount here all the discussions that took place, and for that matter a lot of them would not interest Pennsylvania sportsmen. Nevertheless a brief resume of the highlights will be of value, particularly in view of the fact that our own sportsmen have of late years been watching the conservation activities of the federal government and of other states with considerable interest.

It seems that everywhere we go we meet up with a deer discussion of one sort or another, and after hearing a report from the State of Washington concerning surveys they have been making of their deer and elk population since 1937 I was asked to give a brief resume of Pennsylvania's experiences with deer. Our figures astounded the western officials. Since Washington has been killing only bucks it was reported that does have become much tamer. Furthermore, their losses during the winter months as in Pennsylvania have chiefly been fawns, the total loss being about 10% of the herd during an average winter. The State of Washington holds that on the basis of their studies of sex ratios there should be one breeding buck to every three breeding does.

Albert M. Day, Chief of the Federal Aid to Wildlife program of the Biological Survey, reviewed in detail the progress made to date under the Pittman-Robertson Act, and stated

that 38 states have assented to the provisions of the federal law, and that so far only four states are ineligible to participate in the program. Mr. Day claimed, however, that unless those states sponsoring projects move rapidly in getting underway they may not get all the benefits to which they are entitled. In other words, any money from the initial allotment not expended between now and July 1, the end of the fiscal period, will revert to the federal government. Pennsylvania, I am happy to say, has taken advantage of all the federal aid offered under the program.

Although it has no direct bearing on Pennsylvania, I was particularly interested in a report on the restoration of elk in Arizona. It appears that prior to 1912 there were practically none in the state but through protection up until 1936, when legal hunting was permitted the first time, the herd increased to about 4500.

Of interest also was a discussion on the Chukar Partridge by a California game breeder who asserted that plantings of Chukars, according to surveys made in cooperation with the California Department of Conservation, indicated the birds sometimes have moved in excess of 35 miles within 18 months. Others moved at least 20 miles in six months. The birds seem to thrive best in extremely rocky semi-arid and rather barren hill country with little vegetation usually where there is little water available. California has found that the Chukar is a fast flying, close-sitting bird when pursued, and that it is much harder to flush the second time. The name Chukar is commonly applied to about twenty closely related members of that family of birds, and California is devoting its principal attention to three of these species, namely, the Red Legged Hill Chukar, the Persian or desert Chukar and the Great Northern Chukar. The game breeder in question sug-

gested that any state attempting to stock Chukars should be careful to secure its birds from the sub-species best suited to its climatic conditions.

A number of states went on record as being strongly in favor of scientific research in connection with their wildlife programs, and eight other states have in operation projects similar to the one at Penn State. The Oregon Game Commission is employing graduates from the college who have taken game management courses as fast as vacancies occur and funds permit. That state is also actively cooperating with 4-H Clubs by sponsoring a ten-day school for selected members. The clubs raise pheasants from eggs supplied by the Department for which the club members are paid 75c per bird.

The emphasis on research activities was again brought out in a report from California, and I was very much impressed with the number of technically trained men already employed by the western states in their game and fish work. California was an outstanding example with a much larger staff of technically trained workers than any other state in the union. All of the employees of that state are under Civil Service, and are paid considerably better than like employees in Pennsylvania.

One of the principal resolutions following the western conference was the stand taken against a regulation of the Secretary of Agriculture which purports to give the Forest Service the right to control game on national forests; to establish seasons, bag limits, etc., and to charge fees for hunting and fishing irrespective of state laws. The resolution was rather vigorously worded and aimed particularly at a suit now pending in North Carolina arising from the Forest Service's attempt to claim sole-ownership of the game on the Pisgah National Game Preserve.

William H. Sawtell, State Game Warden of Arizona, was elected President of the Western Association, the 20th Annual Convention of which will be held at Seattle, Washington, sometime next summer.

I shall not take time to outline any of the discussions or resolutions of the meeting of the American Fisheries Society in that most of them contain matters of interest only to fish culturists and administrators. However, I should like to dwell for a moment on the conference with the Biological Survey during which an interesting report on migratory waterfowl was submitted by Dr. Frederick Lincoln, of the Biological Survey. He expounded the method used by the government to check the waterfowl supply throughout the continent. It is gratifying, indeed, to note such an increase in view of the fact that duck hunters have increased considerably in recent years. According to Dr. Lincoln hun-

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A BROAD OUTLOOK ON CONSERVATION

A report of the annual meeting of the Pennsylvania Forestry Association wherein is stressed a broad future program for forests and wildlife.

By The Editor

WHAT will go down in history as the first concerted effort to better correlate the various activities of the Department of Forests and Waters, the Allegheny National Forest, the Game Commission, the Fish Commission, and the sportsmen of the Commonwealth in making possible the multiple use of the forests to the best interests of all concerned was undertaken by the Pennsylvania Forestry Association at its annual meeting at Cook Forest, Clarion county, September 22 and 23.

The keynote of the conference was sounded by Francis R. Cope, one of the Vice-Presidents of the Association, who stressed the multiple use of forest lands and urged all present to make every possible effort to so regulate their respective programs to the end that the economic, esthetic and recreational potentialities of the forests each receive its full share of consideration. After all, Mr. Cope pointed out, the multiple use of forest lands means their proper regulation and management to the end that the greatest good be obtained for the greatest number, and that hunters, fishermen and nature lovers all have a chance to enjoy their proportionate share of the forest, its game and fish life, and its scenic grandeur.

Mr. Cope's remarks were also reflected in the talks given by following speakers. For instance, Mr. M. A. Mattoon, Assistant Regional Forester of the U. S. Forest Service, Washington, D. C., gave a splendid outline of the management of the national forests, cleverly visualizing its multiple use through the eyes of a forest supervisor. He said there are three important components of national

forest administration, namely, protection against fire, insect epidemics, disease, etc.; the construction and maintenance of those improvements which are essential to the economic and successful administration of the forest property; and resource management. He said that the every-day tasks and decisions of the forest supervisor today with respect to the management of all of the resources in their proper relation to each other require that he know something of the management of each—the soil, the water, the timber, the recreation, the wildlife. Naturally he is guided by the principle of multiple use of forest land which envisions such a balance in management of the resources under his direction that the greatest net public benefit results. He pointed out that wildlife is a product of its environment; that the relationship between wildlife and the forest is extremely complex, but that one cardinal principle is recognized, namely, that the relationship should be in reasonable balance. Over-population results in deterioration of the environment and ultimately in the wildlife itself.

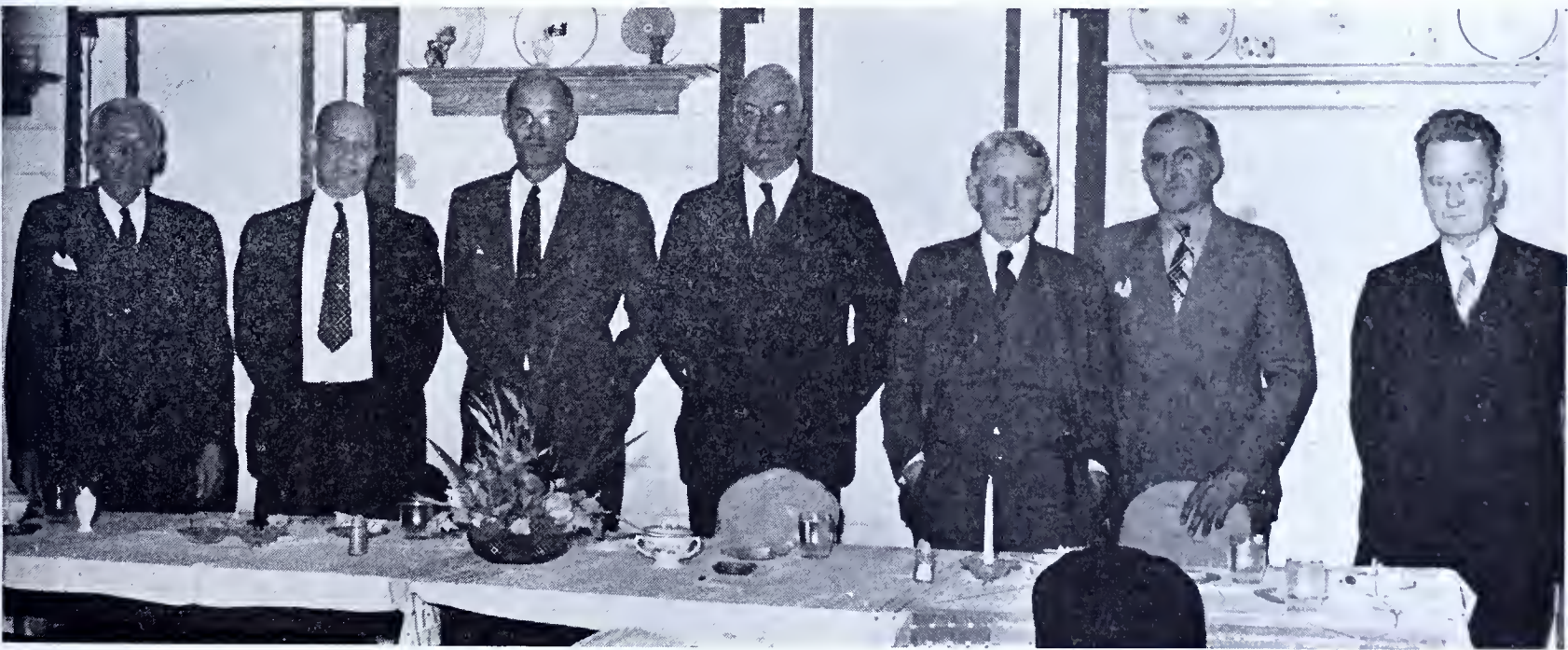
Mr. Mattoon said the management of wildlife resources divides itself into three principal parts, the first having to do with improvement of environment. There are many relatively simple things that can be and are being done to improve environmental conditions on the National forests. The planting program, for instance, may involve mixtures in which the selection of species includes trees and shrubs valuable to wildlife. Selected old fields, abandoned roads and railroad grades are left unplanted to serve as

feeding, resting and playing places for wildlife. The forest supervisor also includes in his program provisions for the retention of stream shade as well as food and den trees. He also considers the pruning of abandoned orchards and fruit trees so they will last longer and produce more, the exclusion of mass recreation from sanctuaries, and many other items.

The second factor involves cooperation with constituted state authorities to the end that the best possible working relationships between state and federal authorities and the public be fostered and maintained. Here again the supervisor finds there are many things that he and his organization can do. He can assist in the state's law enforcement job, in fish rearing and planting, game stocking, jointly establish seasons and bag limits to meet special problems, construct, maintain and operate improvements for administrative and managerial purposes, such as fish nurseries, rearing ponds, checking stations. He can conduct censuses, special studies, trapping operations, and many other items necessary to good management. The point is that both agencies work together toward a common end.

Much of wildlife management is human engineering, thus the third factor is that of gaining concerted public support which makes for adequate financing and a satisfactory piece of work. Mr. Mattoon emphasized the fact that whether it be the necessity for reducing numbers of certain animals, such as in the case of the deer on the Allegheny National Forest or the restoration of the passenger pigeon.

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Courtesy Oil City Derrick

Officials and speakers of the Pennsylvania Forest Association at banquet table, Cook Forest State Park. Left to right: H. G. Mattoon, Secretary; W. E. Montgomery, Harrisburg, Chief of Management, Department of Forests and Waters; M. S. Mattoon, U. S. Forest Service, Washington, D. C.; Wilbur K. Thomas, Philadelphia, President Pennsylvania Forestry Association; John M. Phillips, Pittsburgh, dean of Pennsylvania sportsmen and noted conservationist; Seth Gordon, Executive Director, Pennsylvania Game Commission; James N. Morton, Chief of the Division of Land Management, Pennsylvania Game Commission.

THE IRISH SETTER

By J. HORACE LYTLE*

WE all know that in the early days the Red Dogs of Ireland bowed not to their English cousins in the field. Of course they weren't exactly red dogs then, their white markings being often as predominant as the red. Today a dog with any white to speak of wouldn't even be considered within the fold. Yet, white is attractive. Furthermore, it is practical.

We know, too, that before the beginning of the present century the Irish dogs could meet all comers on even terms in the field. At Sauk Center, Minnesota, the field trials were won by an Irish setter owned by Fowler Stoddard of Dayton, Ohio. In a famous long match race a son (Joe Jr.) of the imported Irish setter, Elco, defeated the great Gladstone, outstanding English setter of his day. A most prominent field trial reporter wrote not so long ago that he once saw an Irish setter bitch outrun, out-range and out-bird Cowley's Rodfield's Pride, a dog to which most of his competitors invariably gave ground.

The first field trial this writer ever saw was years ago at Madison, Indiana. There I met George Gray, ranking well around the top of famous handlers. And now this whole comment it prompted by a letter from this same George Gray, which I shall always value highly, and which I feel holds too much of important interest not to pass on. He says:

"When I read the notice that you were booked as one of the judges in the Irish Setter field trials, it brought back recollections and sweet memories of bygone days, when I was blowing the whistle over the red dogs way back in 1891 and '92. The days when Damon Washington, George Covert, E. B. Bishop and Dr. Jarvis were trying to see who could spend the most money on new importations.

"In the fall of '91 and '92 I was running a couple of bitches in North Carolina, Elco's Maide and Tillie Boru, both of my own breeding and real field dogs, the latter winning the Irish setter special in the Eastern trials with a purse of \$100 for the best red dog that ran in the open stakes. I was drawn to run with Antonio with Jim Avent handling. Let me tell you I had old Jim using all the tricks at his command to outsmart the little red bitch.

"Our old Scotchman friend, John Davidson, was one of the judges. On one occasion Tillie made a beautiful point close up to a rail fence, had wind of the birds in hedge on the other side. John said to me in his Scotch dialect: "Garge, could I shoot a bird over that bach?" He got off his horse, took my gun, crawled through the fence, walked up to the birds and killed one. I sent Tillie on and she soon found the bird, bringing it direct to Mr. Davidson, who said: "Ah, Garge, that's a beautiful bach." So much for the Irish. I afterward sold her to George Covert

for \$500, Elco's Maid to Bishop for \$175, and Blue Rock to Dr. Jarvis for \$300."

Most unfortunately, I am sure all will agree, we are not today seeing such Irish setters as George Gray describes—or certainly we are not seeing enough of them. If there are unknown good ones hidden away here or there, that, too, is unfortunate—for the breed needs help. And any individuals having breeding merit to contribute to the worthy cause should be brought to light. This for the benefit of a grand old breed that has regrettably been allowed to slip in the function of field performance, which undeniably should be their main mission in life.

There could be no point in writing this were I not to add certain sincere suggestions. This much, however, I would like to say first—that I can see no reason why gaining the desired end is not possible. It all depends on the type of men who are behind them—and the number of such. For just a few can't do it. And it would be a long, hard pull even for great numbers.

Why do I think it could be done? Because of the case of the pointer. In 1908 few could be found who thought that a pointer might ever win the National Championship. Yet Manitoba Rap came through in 1909. And for the past several years now the cry has been how to bring the English setter "back." (A much easier job, however, than the Irish setter presents today.)

But I'm thinking of other things. We "manufactured" the Boston, the whippet, the Airedale and others. We could remanufacture the red dogs. That I honestly believe. I'd like to feel equally sure that we will. But it just seems to me to stand to reason that if we could successfully breed grey-

hounds down to whippets, we could breed Irish setters back up to "field" dogs. Only, however, if we might not frown at the process of manufacture—that's where I fear the hitch comes in, and regret to say it. Who, however, has any better right than you or I to create or recreate a breed? Did such a right die with Llewellyn? The Irish setters need today the backing of a group of experienced, intelligent, fearless pioneers.

I have certain suggestions. If any man debates them, no man can debate the honest sincerity of purpose with which they are set down. I am not going to all this bother just for fun—but for the sake of the breed. So here goes.

1. Most Irish setters both hunt and point with almost a distressing lack of style or "class." That, then, is the first of the main essentials to consider. You can't hide or turn your back on it. If breeding, I'd either find somewhere a mate as strong as possible in style—or I'd forgo breeding. No use to perpetuate more of the same old thing. And if I simply couldn't anywhere find the sort of mate I'd seek—well I'd jump over the traces, if you know what I mean. I'd go out and get that style—or quit. I'd not just blindly hope.

2. Not enough Irish setters today are imbued with ravenous hunting desire. This really goes hand in hand with the above—for style is but the expression of unquenchable heart for the hunt. To get it we should hunt our Irish setters longer and more often—putting it into them by such constant association that they absorb some of it, besides breeding for it. And forget shades of color, coat, head, length or set of ears or tail—that is if we want hunting dogs. I'd certainly breed for looks, all else being equal—but not

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Some coming Red Champions and gun dogs, owned by Elmer Acker, Wyomissing.

Mr. Lytle, well known Field Trial Judge and author is the guest writer this month for Dave Fisher, our Dog Editor.

WAR IN PENNSYLVANIA

By GILSON W. DAVIS

HOSTILITIES in Pennsylvania's Annual War will start at precisely 9 A. M., November 1. An Army of over 600,000 recruits armed with shotguns, dogs, etc., will invade fields and woods to war on feathered and furred wildlife. The pursued game is by no means defenseless, but has been equipt by mother nature with all the various tricks in the art of self preservation. Any honest hunter will testify that these tricks, in most cases, are enough to insure safety for the wildlife individual.

The contrast between Pennsylvania's War and that now raging in Europe makes us glad that we are citizens of this country. For there we would be subjected to food shortages, super taxes, blackouts, air raids, bombings, limited purchases, high prices, constant fear, and probably actual participation in the War. At any rate I'll take the good old U. S., so let's get back to our own war.

During the entire month of November, hunters can take rabbits, squirrels, quail, ringnecks, turkeys, etc., in varying numbers. Something new this year is an open season on Hungarian partridge in 3 counties. Bear may be hunted 4 days, from November 15 to November 18. Male deer are legal prey for hunters from December 1 to December 15. A short season for antlerless deer has been designated in four counties on December 14 and 15. The waterfowl season in Pennsylvania starts September 1, with rails and gallinules, woodcock open for one month, October 1 to 30. Ducks, geese, brant, etc., may be hunted from October 22 to December 5.

Wildlife inventory reports from the various districts in the State are favorable, and a record kill is expected. Ringnecks are plentiful in the southeastern and southwestern sections due to good breeding and nesting weather. Quail and rabbits are likewise numerous in the entire State. Grouse and turkeys also had good nesting seasons and have been observed in large numbers. Due to the closed season last year on male deer, an exceptionally large number of bucks will be bagged this season. The bear population is greater, if anything, and if hunted by as many nimrods as usual, a larger bear kill than the past several seasons is expected.

More open hunting areas will be found this year than any before. The Pennsylvania Game Commission has at this time over 700,000 acres open to hunting. 550,000 of these are owned outright, 150,000 leased. And by November 1 probably 50,000 more acres will be added due to the Special Wildlife Refuges Program now being sponsored by the Commission, and promoted by sportsmen's organizations throughout the State. Under this program any farmer or landowner may lease the hunting rights for his property to the Pennsylvania Game Commission through some sportsmen's organization. The sportsmen establish Safety Zones around occupied buildings (150 yard radius), wherein it is unlawful to hunt or shoot. They may also establish small breeding and escape Refuges for wildlife. Many organizations plan to

patrol the projects for both the farmer's and wildlife's benefit. This program, now in its infancy (4 months old), is expected to solve the "Posted land" problem in the State, and have an important bearing on our future game population. The areas marked "no trespassing" appear to be somewhat decreased this year. However, may we suggest that all hunters in all cases before going on privately owned land respectfully request permission to hunt from the owner. Ninety-nine per cent of the owners will grant permission whether it is "no trespass" property or not.

In preparation for the coming hunting season and also future seasons the Game Commission, during the past year, completed the following program:

Purchased, raised and trapped 91,572 rabbits, 9,629 quail, 61,562 ringnecks, 236 raccoons, and distributed them in areas where the supply was depleted in the last hunting season. Maintained 1092 Refuges totalling 165,000 acres throughout the State. Estab-

lished and maintained 59 Propagation Areas comprising 22,000 acres, from which the excess game is trapped annually. Over 2½ million trees, shrubs, and vines were planted for wildlife food and cover on State Game Lands. The timber was sold from 3000 acres and \$5,000 realized on the transaction. The Commission conducted thinning operations on 5800 more acres to release food bearing trees and shrubs from competition and to encourage sprout growth. 20,000 apple trees were pruned to increase fruit production. The Commission planted about 10,000 pounds of a special grain assortment designed solely for wildlife. About 1500 small plots totalling 650 acres were planted and from this approximately 50 tons of grain will be available for wildlife this winter. About 50% of this grain will be harvested for feeding during the bad weather this winter.

The Commission maintained a field force of 200 salaried employes to enforce the Game laws, educate the public, develop and manage

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"Just watch the fun when I send this mechanical rabbit out there."

DEAL ME A HAND

By ROBERT OSBORNE STEELE



IT was not often that Dusty Rhoades and Tony Shober got together without the most exaggerated tales of personal experiences ensuing immediately. It didn't matter whether the meeting happened in a central city hotel lobby or in some hunting shack in the backwoods, the result was always the same. Since they had argued and bickered from childhood and had hunted together from the time that they could first handle a gun it seemed strange to many that the stories were not stale from repetition. Both enjoyed an audience but this was not essential, if conditions made that impossible they talked to the four bare walls.

"Another day like this and I'm heading back to town," Dusty grumbled, as he fought with the wet leather thongs of his boots. "Can you imagine tramping all day without a bird to show for it. I'd rather play cards any day in the week."

This merely served to start the fireworks because playing cards on a gunning trip was Tony's pet aversion. How anyone could plan a week's fun hunting and then end up in a card game was a mystery to him. It was one of the things he couldn't stomach. To make matters worse, it was Tony who had selected this location and Dusty griping about game reflected on his good judgment.

Tony tossed his hat in the corner. He was worn out from fighting underbrush and he was hungry. So he went into the kitchen to prepare some food leaving Dusty to start the fire and bring in the water.

"Of course," he called from the depths of the scullery, "with a little more luck you could have had that grouse that flushed out of the evergreens this morning."

Dusty merely grunted.

"Yes," he moaned, "and with a little more time I'd have been able to untie myself from the Rhododendron when the second one flushed."

"Oh, we saw birds all right," Dusty continued, "but those babies aren't educated.

Someone ought to teach them to fly in a straight line. I still think we could have had more fun playing cards."

Since this last remark was just a downright dig, Tony let it pass without comment.

Slowly the aroma of bacon and coffee filled the cabin. The vapor from hot biscuits curled up toward the ceiling. The fire crackled and a warm, drowsy glow spread through the room.

Dusty mellowed perceptibly as he inhaled deeply.

"Tony," he called, "you're a swell cook even if you did pick this place. But did you ever hear about the time Doc Kramer and I went up into Canada?"

"That's one I missed," Tony mumbled through a mouth full of bacon. "If it's as good as the last one skip it."

"Well, it's a darn good yarn, old fellow," Dusty persisted, "and, just to make you prick up your ears, we all played cards on that trip."

Tony shuffled in from the kitchen and sat down with exaggerated resignation.

"Cards have no place on a hunting party," he stated.

Dusty grinned. "We would have gone crazy on that trip without them," he replied. "It was two years ago when Doc asked us to go up into the backwoods for grouse. You had some deal on or your wife put her foot down, at least you didn't go."

"Listen, Dusty," Tony said softly, "I'm the only person within miles. Don't waste this masterpiece on me."

"But this is straight stuff," Dusty persisted. "Doc and I started out just like we always did, up to the ridge over Red Hollow."

"You saw some birds, of course," Tony commented.

Dusty grinned.

"We saw a few and had a couple but it was slow. This was the first day of a week's go understand and we were afraid the rest of the week would drag. About sundown we saw a single gunner coming up the valley on the other side. Since the day was pretty well shot, we edged over to see what luck he had had."

Tony nodded encouragement.

"He just had a single bird," Dusty went on, "but he was tickled pink."

"A beginner, eh?" Tony asked.

"No," Dusty corrected emphatically, "an old-timer and he handled that bird like it was a treasure. He kept grinning and stroking it. And when we told him we only had two he complimented us."

"This is going to be good," Tony murmured under his breath.

"Well, one word led to another," Dusty continued, "and I gathered he was praising the scarcity of birds. Doc and I sort of looked at one another. You know Doc. He blurted out that the scarcity of game was nothing to brag about, that he liked to see plenty. The stranger just grinned. Finally he offered to direct us to the Garden of Eden if we didn't blame him for what happened."

Tony paused, his fork half way to his mouth. He suspected a trick but so far it was well concealed.

Dusty calmly helped himself to another biscuit.

"Doc gave him plenty of assurance that we were not amateurs and that a little game wouldn't spoil our sunny dispositions. So he told us where to go."

"I can imagine," Tony commented.

"Be serious," Dusty asked. "It was a place in Canada. Some sort of a gunning club. He gave us a card of introduction and a map showing us how to get there. Naturally, we were skeptical but he was a fine old codger, so off we went."

Tony looked over at Dusty with a suspicious glare.

"Just like that you drive to Canada," he said.

"You don't understand," Dusty explained. "We had a whole week before us. We could drive all night and make it by noon the next day. That left us four days of hunting. It was crazy, I admit, but when Doc smells game there is no stopping him."

Tony shook his head sadly.

"Anyway, we started that night," Dusty went on firmly. "It took us an hour or so to pack and we were off. We took turns driving and the next morning we were within a few miles of the camp. I forgot to mention that the last twenty miles were over a log road and that didn't help Doc's disposition any after an all night haul."

"Just a couple of nuts," was Tony's comment as he calmly buttered another biscuit.

"So," Dusty went on, warming up to his coffee as well as the story, "when we pulled up to the cabin we were tired and hungry."

Tony pushed his plate away, struggled with his shirt pocket for a cigarette and slumped down in his chair to stare at Dusty with pure malicious disbelief. His eyes called him a liar with mute eloquence.

"And I suppose the whole camp rushed out and cheered," he ventured.

Dusty shook his head.

"Not a sign of life except a blue haze of smoke out of the windows which were down from the top. It was a warm day but we thought that was sort of funny."

Tony nodded.

"We brought out the luggage and staggered up to the door. Now you won't believe this, Tony," Dusty explained, "but when we walked in you could cut the smoke with a knife and a dozen men were sitting around the big table playing cards. They hadn't just started, they had been there for a week."

Dusty paused.

"It was all sort of screwy," he went on, "because no one paid any attention to us. They just looked around and nodded and back to the game. Now Doc is something like you about cards on a gunning trip. He thinks they are out of place to put it mildly. So he wasn't much impressed. After all we came up there to get some hunting. Finally one chap got up and showed us an empty bunk and pointed to the kitchen. So we stowed our bags and went after some food."

"Speaking of food, do you want any dessert?" Tony interrupted.

Dusty waved the suggestion aside. Conversation was food and drink to him.

"With some food under his belt, Doc got impatient," Dusty continued. "He collared one of those guys at the table and asked about game. 'Sure,' says this fellow, 'lots of game.' 'And why aren't you out gunning?' Doc asks. The whole table grinned but no one said anything. 'Did you get any birds?' Doc persisted, and this chap points to the pantry. Doc looked disgusted but he shuffled out for a peek. I went with him and looked over his shoulder. Tony you never saw such a pile, the whole room was waist-high with everything you could name. This was too much for Doc. He pulled on his boots and jacket. 'Come on,' he says, 'let's go.'"

Tony shot what remained of his cigarette into the fireplace. "And so what?" he asked.

"Well to make a long story short," Dusty rambled on "Doc and I started out. No dogs, mind you. Just us two. We got about to the edge of the clearing and dropped a couple of shells in our guns, when up hopped a pair of grouse. As big as hens I swear. You couldn't have missed them with a .22. They were on Doc's side so he gets a double right off."

"Not bad," Tony commented.

"Not bad!" Dusty exclaimed. "Just wait. Doc went over to pick them up when three more flushed out from under his feet and I pick off two. Here we were not fifty feet from the cabin and we've seen five birds and got four. Doc beamed, his grin reached half way around his face."

A suspicious glint appeared in Tony's eyes but he said nothing.

"We put the birds in our coats," Dusty continued, "and started on, figuring, of course, that we had just stumbled on a covey. A

little way on we dislodged quail. Not a half dozen birds, understand. No sir, there were two dozen in the covey if there was one. We took a pair. After that Doc looked at me a little queer. Things were going a bit too good. So after we picked up a few rabbits, we decided to go back to the cabin to think things over."

"Who's going to clean up?" Tony asked, pointing to the dishes.

Dusty never heard him. He just waved his arms and went on.

"We naturally figured someone would crack about the game we got in so short a time but no one batted an eye. We stood around sheepish-like and then Doc walked over to the pantry and tossed his on the pile. Kind of discouraging, you know, but we were tired and it being only around two o'clock, we hopped into the bunks for a nap."

Tony finally began to show some real interest, he listened.

"I didn't sleep much, too restless you know, and I could hear Doc tossing. Around four o'clock I got up and nudged him. We sat there talking the whole situation over quiet-like. Finally Doc says, 'It's funny business but maybe we're wrong. Do you want to try it again until sundown?' I agreed, of course, so off we tramped again."

Dusty took time out to light a cigarette and blew a smoke cloud to the ceiling before proceeding.

"When we left the cabin," he continued, "we both turned the oposite way from the path we had taken at noon. We didn't think much of it at the time but we later agreed it was because we had had too much game. Anyway, just as we got to the edge of the clearing, what do you think we heard?"

Tony shook his head.

"A gobbler. Turkey. Get it? Now that's something because you don't get turkeys down this way. So Doc and I started to inch up on this bronze boy just as quiet-like as

we could. Pretty soon we could see him. He was up near the top of a bare tree. Shooting a sitting turkey is fair enough because you seldom get close enough to see them, but, because of what happened at noon, Doc hesitated. I sort of pushed him to go ahead and down plumps the bird."

Tony nodded encouragement.

"That isn't all," Dusty continued. "Two more turkeys flew out of the same tree. We were so set on the one we got we missed the others, but it didn't matter because we got another within fifty feet. Those birds were heavy and after we kicked grouse out from under our feet and stumbled over rabbits right and left, Doc finally turned to me with a look of despair. I knew how he felt so without saying a word we turned back to the clearing."

Tony stretched leisurely. He sipped the last of his coffee.

"Another cup?" he asked.

Dusty shook his head.

"Doc was so quiet on the way back," he went on, "that I began to feel that something had come over him. He had that grim expression as though he was going to do something desperate. When we walked into the cabin he tossed that bird in the pantry and slammed the door. Then he took off his jacket, tossed his hat in the corner and pulled a chair up to the table. The others sort of chuckled and nudged one another when he reached for the cards."

Dusty winked slowly as he finished his story.

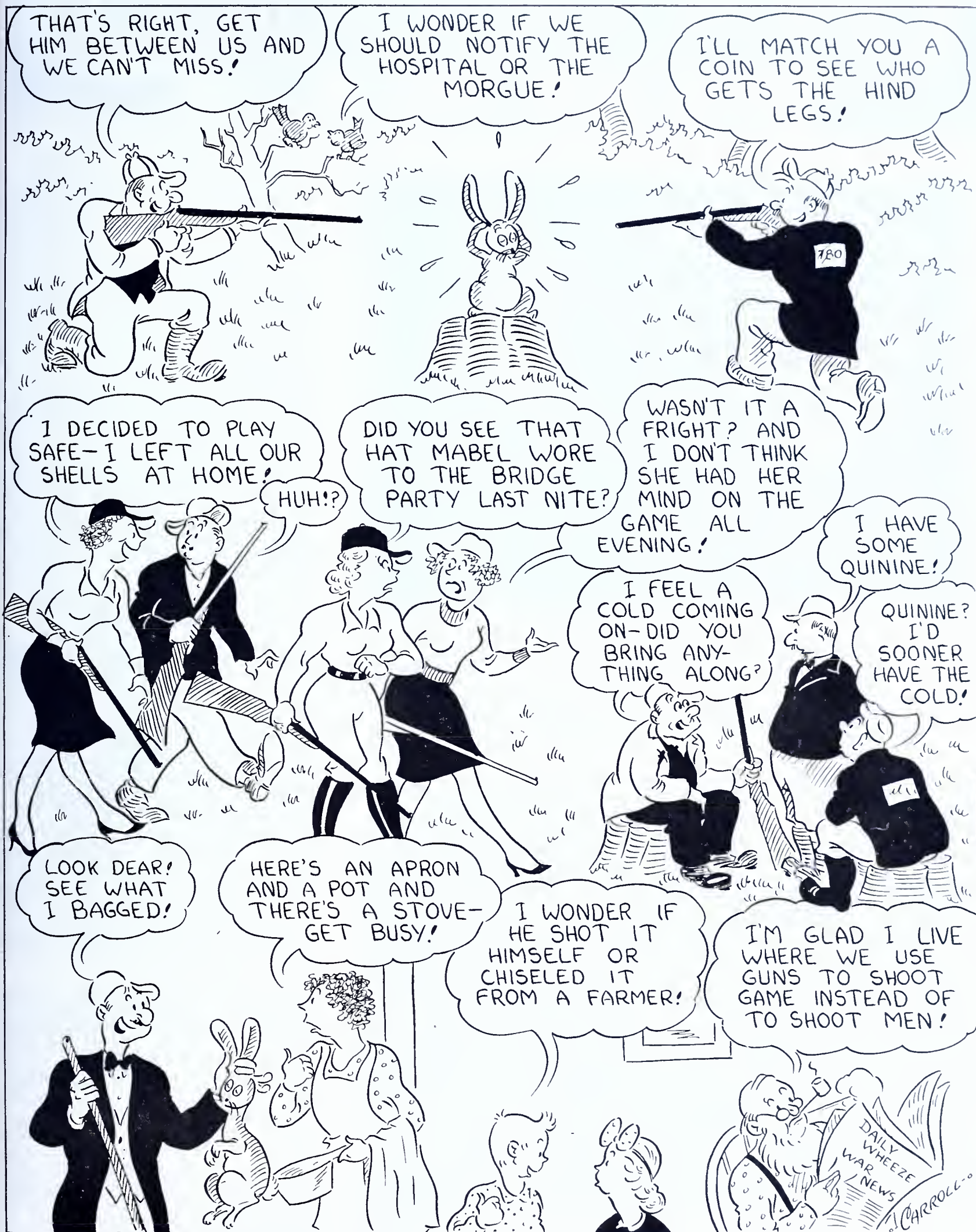
The chair made a rasping noise as Tony pushed himself away from the table. He went over to the bookcase and fumbled around in the dark. Finally he came back, a deck in his hand and a grin on his face.

"What's it going to be," Dusty laughed triumphantly.

"Solitaire," Tony answered firmly.

"Suits me," Dusty replied with a sigh. "Deal me a hand."







Secretary of Revenue William Hamilton presenting Governor Arthur H. James with Resident Hunter's License No. 1. The Governor, now Pennsylvania's No. 1 hunter, is an ardent sportsman. The Game Fund got the \$2.00, that honor falling upon the Game Commission's Executive Director, who was present.

A GREAT CONSERVATIONIST PASSES

The world lost another great pioneer when John B. Burnham, author, explorer and conservationist died at his home near Willsboro, N. Y., on Saturday, September 24, at the age of 70.

An outstanding figure in conservation work for many years, Mr. Burnham was largely instrumental in getting the Migratory Bird Treaty ratified and legislation passed for the protection of migratory birds. He was the author of many articles on conservation and gave numerous lectures on the subject.

He served as president of the American Game Protection Association from 1911 to 1928 and was chairman of the Federal Advisory Committee to the Bureau of Biological Survey for twenty years. In 1926 he received the gold medal of the Camp Fire Club of America.

He served as business manager of Forest and Stream magazine from 1891 to 1897, and was in the first Klondike gold rush in 1897-98, when he built and operated a timber railway for hauling freight over White Horse Pass.

Helped Codify Game Law

From 1904 to 1911 he was successively chief

game protector, deputy commissioner and acting commissioner of fish and game of the State of New York. He was one of a committee of three which, in 1915, codified the New York State Fish and Game Law.

Known as a big-game hunter in all parts of the United States, Mexico, Canada, Alaska and Siberia, Mr. Burnham led an expedition to Siberia in 1921 in quest of a rare specimen of mountain sheep. He traveled nearly 25,000 miles before he accomplished his mission. An account of his expedition appears in his book, "The Rim of Mystery."

He often expressed the opinion that hunters should be required to prove their fitness as sportsmen and their willingness to obey all laws before receiving permits to shoot wild game. In an article in The North American Review in September, 1928, he wrote:

"I love hunting; but I do not love it so much for the game in the game pocket as for the game in the fields and forests. I am ready always to give up shooting when the interest of wildlife demands it. In this I think I represent the attitude of all true sportsmen."

FIRST SPECIAL REFUGES

The first approved application for a Special Wildlife Refuge Project was submitted by the Huntingdon County Game, Fish and Forestry Association. The entire project comprises 500 acres on the property of L. A. Lininger, 1½ miles east of Huntingdon. It is proposed to establish one refuge unit of approximately 10 acres, and to post one Safety Zone area posted around the buildings.

The second project which was approved by the Game Commission is located in Indiana county 2½ miles south of Starford, and is sponsored by the Green Township Fish and Game Association. This project is located on lands of John LaMantia, and contain approximately 80 acres.

These two projects are being set up in connection with the Special Wildlife Refuge program authorized by the 1939 session of the Legislature whereby the Game Commission is permitted to cooperate with sportsmen's organizations in the establishment of refuge and safety zone areas.

STOLEN DOGS

With the coming of the training season, every day brings us reports of stolen dogs. If any reader should happen to locate any of the following, please notify the writer immediately:

BASSETT HOUND, Female, stolen in Butler Township, Butler county, about 4½ years old. Black, white and tan in color, tan head, black saddle, tan rump and tail. Notify this department or George Thompson, 1543 Lincoln Avenue, Pittsburgh, Pa.

IRISH SETTER, female, vicinity of Elysburg. Had chain collar with name attached. This dog is a show dog and not a field dog and is gun-shy and of no value to any hunter. No questions asked if returned. Notify this department.

HOUND, Blue tick, wearing harness. Named Ring. Notify owner at 712 N. 3rd Street, Sunbury, Pa.

RABBIT HOUND, blue tick female, 4 years old, about 20 inches in height, answers to the name of Nell. Disappeared about August 20, 1939. Property of Peter Shickley, 1016 Girard Street, Harrisburg, Pa.

There will be no charge for running notices or descriptions of lost, strayed or stolen dogs in this department.

STOLEN GUN

An over and under Browning Shot Gun—double triggers—26" Barrels—Serial Number 7513—was stolen from Mr. Raymond Martella, 2627 South Rosewood Street, Philadelphia. Any information leading to its whereabouts will be greatly appreciated.

CURRENT TOPICS

On August 31, 1939, after completing over fourteen (14) years of continuous service, Florence D. Novinger, Stenographer-Secretary to the Commission's Comptroller, tendered her resignation to the Commission which accepted it with deep regret. Mrs. Novinger started with the Commission January 7, 1925, as Stenographer-Clerk and because of demonstrated ability and efficiency merited several promotions. She leaves the service with the very best wishes of all its employes for an abundance of happiness, good health and a relief from the daily grind.

According to Albert M. Day, Chief of Federal Aid and Wildlife Restoration, there will be \$2,000,000 available beginning July 1, 1940, for carrying on conservation programs authorized under the Pittman-Robertson Act. However, in his discussion before the meeting of the International Association of Game and Fish Commissioners at San Francisco during June of this year Mr. Day pointed out that there is still unobligated the sum of \$578,564 from the original \$1,000,000 Pittman-Robertson fund and of that only \$311,436 has actually been set aside in the Treasury to the credit of individual projects in thirty states. As a result he recommends that those states not now deriving any benefits from the fund get busy else a part of the appropriation reverts back to the federal government. He further stated that although the various states have until June 30, 1940, to obligate and expend the first year's allotment it does not pay to wait until the last minute and then expect the Survey to approve their plans within a period of a few days.

Bob Vale, well-known sports writer, who for many years extolled the work of the Game Commission and the sportsmen through his column in the Philadelphia Inquirer, has taken over the Hunting and Fishing Department of the Philadelphia Daily News. In a recent statement he said that any gunner who kicks about the game regulations in Pennsylvania this fall ought to be put in a barrel with a porcupine and rolled over the edge of the Devil's Hole. He claims the new rules are the most liberal for the gunners that he has run across in many years and that the shooting seasons are longer and the bag limits generally more liberal.

In an article entitled "Toll of the Open Road" by Wilson C. Fitz (Field & Stream for June; Conservation—July and August) there are some very interesting statistics on the number of game birds and animals killed on the highways throughout the country. Mr. Fitz says there are over 29,000,000 cars plying some 3,000,000,000 road miles in the United States today. About 1,000,000 miles of these roads are surfaced highways, while slightly less than half of these make up the main lines. Surveys disclose that a fair average of vertebrate wildlife killed on surfaced highways generally in summer and fall would be about one per five miles a day or 200,000 creatures a day in the United States disregarding the unsurfaced roads completely. These wildlife

figures include everything from snakes and small birds on up but valuable game comprises a large percentage.

Mr. Fitz says that in the northern states winter brings comparatively few fatalities because of the hibernation of animals, the absence of migratory birds, and the curtailed activity of wildlife generally, but it is also due in some part to lighter traffic and slower moving vehicles. Spring brings a much heavier toll but the real loss comes from June to November. Of course this is not so applicable to the south where the highways may yield a more even year round distribution.

An item in a New York City newspaper's sportsmen's column suggests that hunters in New York state owe much to Pennsylvania's successful game management.

Many of our own sportsmen will remember that back in the days when deer were scarce in our own woods they envied those who were rich enough to afford hunting trips to the Adirondacks. Some of us may recall that the first venison we ever tasted came from that region.

As protection and regulation increased the number of deer in Pennsylvania, deer-hunting became the sport of the common man. Yet while Pennsylvanians had good hunting and deer became a familiar sight in many of the counties, great areas in our neighboring state were wholly without deer.

Today, deer-hunting has been restored in a number of New York's counties, adjoining Pennsylvania. The conclusion is that hunters in those areas owe their good fortune to the fact that Pennsylvania's deer have ignored

state lines and have spread out, until today there is a large deer population in the border counties.

Last Fall, New York, for the first time in many years, declared an open season in four additional counties in which the influence of such migration from Pennsylvania can be traced. These four counties added 1,087 to the total kill of legal bucks.—Williamsport Sun.

DEER KILLED BY LICENSED HUNTERS
IN PENNSYLVANIA
1923 to 1938 Inc.

Year	Antlered Bucks	Anter-less	Total
1923	6,452	8	6,460
1924	7,778	126	7,904
1925	7,287	1,029	8,316
1926	11,646	1,295	12,941
1927	14,374	None	14,374
1928	None	25,097	25,097
1929	22,822	None	22,822
1930	20,115	5,979	26,094
1931	24,796	70,255	95,051
1932	19,724	None	19,724
1933	20,480	None	20,480
1934	21,137	None	21,137
1935	23,802	46,668	70,470
1936	18,804	None	18,804
1937	39,009	None	39,009
1938	None	170,000	170,000
Total for 16 seasons	258,226	320,457	578,683



Over 100,000 persons attended the Game Commission's wildlife exhibit at South Park, Pittsburgh, during September. The show was put on in collaboration with the Pittsburgh Press and the Allegheny County Fair.

CURRENT TOPICS



Joe Barkley, left, Secretary of the Jefferson County Sportsmen's Association showing James N. Morton, Chief of the Division of Land Management for the Game Commission a contemplated special wildlife refuge.



Mr. Barkley holding a cluster of "Devil's Club" on the refuge, which abounds in all kinds of game foods.

FIELD NOTES

"Received complaint of squirrels doing damage to shade trees in the vicinity of park in the city of Corry. Upon investigation found that fox squirrels were peeling the bark from the upper branches. They continued to work on the bark until the middle of August, or for a period of about three weeks. They apparently were peeling the bark off and eating the cambium layer. I could discover no reason, as there was plenty of food and water available."—Game Protector Donald E. Miller, Erie-Crawford counties.

"The extremely dry weather has dried up all of the creeks and the browse and pasture in the woods. Deer are working the food plots very hard. I counted twenty-eight deer on the buckwheat fields on Refuge #63-A. recently, with only one buck in the bunch."—Game Protector T. J. Updegraff, Clarion county.

"During the past week I observed three immature Bald Eagles on Lake Wallenpau-pack. I also observed a pair of adult birds there this year. There are also several adult Bald Eagles along the Delaware River between Lackawaxan and Mast Hope in Pike county."—Game Protector Samuel K. Weigel, Wayne county.

PROSECUTIONS

Game Prosecutions during August totalled 102 and penalties collected and deposited amounted to \$1489.05.

There were secured during July, 124 Cooperative Farm-Game Project agreements, totalling 6,441 acres, for farms adjoining 8 previously established projects in Berks, Lancaster, Montgomery, Fayette and Westmoreland counties. During the same period, 68 similar agreements, totalling 5,983 acres, were secured in connection with 6 new projects to be established in Chester, Northampton, Erie, Mercer and Westmoreland counties. Cooperative Farm-Game Projects now total 74, involving 1,506 agreements, and an aggregate area of 112,792 acres.

Roger L. Franke, Deputy Game Protector from Millersburg, tells of a ringneck pheasant which flew through the windshield of a car operated by Jack Joyce of that town. The bird landed in the back seat and was uninjured and was held captive there until Mr. Franke was called upon to secure it. He kept it overnight, fed it, and next day released it.

"On September 16 I observed one of the largest flocks of flickers ever seen in this section. There were at least fifty birds in the flock and they were flying through the fields."—Game Protector Ernest Hunsinger, Potter county.

"While in Armstrong county on September 5, I was informed by W. F. Tarr, Leechburg, of two hatches of bobwhite quail within the last couple of weeks. Also while in Indiana county on September 7, I was told by Morris Stearn and others that two nests of bobwhite quail were observed on one of the Farm Game Projects in that county. I visited one of these nests which contained 10 eggs being brooded by the hen quail.

"The cause or causes of this late nesting is unknown to me, but might be the result of several factors: re-nesting, unfavorable environment, or the result of late releasing and the consequent upsetting of their breeding cycle. From time to time this summer, single pairs of quail have been observed crossing roads, apparently without broods of young."—W. C. Ryder, Game Technician.

"The fall migration has started (September 15) with a few Pintails and Blue Wing Teal. The young of the ducks raised in the area are taking to wing, making mallards and black ducks outnumber the other species. Forty-seven Canada Geese are within the Refuge and are taking to wing."—Game Protector Burt Oudette, Pymatuning Refuge, Crawford county.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

HUNTING BY BOY OF FIFTEEN YEARS

Q. Please answer the following question under "Sportsmen's Queries" in the Game News: May a boy fifteen years of age, if he has obtained a hunter's license, hunt deer with a member of his immediate family who is over twenty-one years of age?
C.E.—Kingsley, Pa.

A. Yes. Under the present law, persons between the ages of fourteen and sixteen must be accompanied by an adult at least twenty-one years of age, but that person need not be a member of the immediate family. If a person between the ages of twelve and fourteen desires to hunt with firearms, he must be accompanied by a member of his family at least twenty-one years old. Written consent of a parent or guardian is required for any person between the ages of twelve and sixteen years desiring to purchase a hunter's license. Our law makes no provision for any person to hunt without a license, regardless of age, unless the hunting is done on his own home grounds or those adjoining same.

* * *

TRAPPING MUSKRATS AT DENS

Q. Is it lawful to trap muskrats at the entrance to their dens?

G.H.H.—Wellsboro, Pa.

A. Under an amendment made to the Game Law by the 1939 Legislature and approved by the Governor, that provision of the old law making it unlawful to set traps closer than five feet from any hole or den which may be occupied by a fur-bearing animal, no longer applies to under-water sets. If, therefore, traps are set under water at the entrance to muskrat dens, such traps will be legal during the coming muskrat season.

* * *

DUCK HUNTING ON DELAWARE RIVER; SNEAK BOAT

Q. (1) Is it lawful to hunt ducks on the Delaware River?

(2) Is it permissible to use a sneak boat?
W.S.—Glenolden, Pa.

A. (1) It will be lawful to hunt ducks and other wild waterfowl on the Delaware River during the coming open season October 22 to December 5. However, under a Pennsylvania resident hunter's license, you may not hunt beyond the middle or channel of the River, as your Pennsylvania license does not entitle you to hunt on any part of the River coming within the State of New Jersey or New York.

(2) There is no objection to the use of a sneak boat for waterfowl hunting so long as it is propelled by hand power. Federal law permits the use of any type of blind except a sinkbox or battery.

HUNTING ACTIVITIES WHILE LICENSE IS REVOKED

Q. (1) Can my husband hunt on his own farm while his license is revoked?

(2) Is he allowed to have a fishing license?

(3) Would he violate any law by teaching or going with me when I go hunting?

A. (1) As your husband's right to hunt or trap anywhere in Pennsylvania has been denied, he does not have the right to hunt on his own farm or elsewhere within the State during the period of the revocation. That portion of our law giving certain residents the right to hunt without a license on their own home grounds specifically states that this right is not given when the Commission has denied to such person the right to hunt or trap.

(2) Revocation of his hunter's license does not deny him the right to take out a fishing license.

(3) We consider it a violation of the law for any person whose license has been revoked to participate in any manner in hunting activities, and in our opinion it would be unlawful for your husband to teach you the sport of hunting while his hunting rights have been denied.

* * *

PISTOL FOR PROTECTION AND HUNTING

Q. Is a license to carry a firearm (pistol) for the purpose of protection valid for hunting purposes?

L.B.—Clairton, Pa.

A. Your permit to carry a "firearm," which we assume is a pistol, for protection does not give you the right to use that pistol to hunt without a hunter's license. To hunt wild birds or wild animals, you must be in possession of a proper hunter's license, but you need not register a pistol with your County Treasurer for hunting purposes when you have it registered otherwise for protection.

* * *

INSPECTION OF HUNTING CAMPS BY GAME PROTECTORS

Q. What right has a Game Protector to visit and search a hunting camp?

C.E.N.—Renovo, Pa.

A. A Game Protector has the right under the law to inspect or search at any time, **without warrant**, any hunting party roster or any camp, tent, cabin or trailer being used either permanently or temporarily for the purpose of hunting or trapping. The officer is required to make known his official identity and the reason for the inspection, to the person in charge of the property.

UNLICENSED PERSON ACCOMPANYING A HUNTER

Q. Will you please inform me if it is legal to take a companion into the woods during hunting season, if the companion does not possess a gun or license?

D.H.S.—Reading, Pa.

A. Game Law enforcement officers take the position that any person who participates in any manner in the sport of hunting should be in possession of a hunter's license. The law makes it illegal for any person to hunt, chase or pursue with intent to take, kill or wound, any wild birds or wild animals by any method, including the use of dogs, without securing a hunter's license and displaying the tag as required in the law. While it may be possible for one to accompany you on a hunting trip and not violate the law by failure to possess a hunting license, we consider it a rather hazardous practice which may get the unlicensed individual into trouble, even though he does not possess a gun.

* * *

SHOOTING PIGEONS

Q. Is it legal in Pennsylvania to shoot pigeons at any time on unposted lands if one is in possession of a hunting license?

M.W.I.—Reading, Pa.

A. We see no objection to the shooting of a common pigeon at any time it is found in a liberated or wild state and is not confined in an enclosure, if the landowner gives his consent. However, under the new Penal Code of 1939, it is unlawful to shoot and maim or kill any Antwerp or homing pigeon while on flight or at rest. A penalty of not more than \$25.00 is provided for a violation of this provision. We are unable to find legal protection for any other species of pigeon in this State when it is not confined in an enclosure.

* * *

USE OF 10-GAUGE SHOTGUN AND HUNTING KNIFE

Q. Is a 10-gauge gun legal in Pennsylvania? Is a hunting knife with a 10-inch blade legal?

M.M.—Nesquehoning, Pa.

A. Pennsylvania Game Law does not limit the size of shotguns to be used for hunting native game, but Federal Law forbids the use of one larger than 10-gauge on migratory game birds, such as woodcock, wild waterfowl, etc. You may, therefore, use a 10-gauge gun for all hunting in Pennsylvania.

There is no objection to the use of a hunting knife with a 10-inch blade for hunting purposes so long as there is no evidence that it is being carried for offensive purposes against other human beings. In other words, so long as you use it strictly for hunting, it is legal.



Hon. John M. Phillips, inset left and third from right at table, was honored recently at a large testimonial dinner of the Izaak Walton League of Pittsburgh. An account of the event appears in the column opposite.

JOHN M. PHILLIPS HONORED AT IWLA BANQUET

"In recognition of his foresightedness and leadership in the creation of the Pennsylvania Refuge System."

Such was the inscription upon a plaque presented to John M. Phillips, Saturday evening, September 23, while the delegates and friends of the Pennsylvania Division, Izaak Walton League of America, met at the banquet held in conjunction with the annual state convention.

Presented by Seth E. Gordon, Harrisburg, executive director Pennsylvania Game Commission, who was associated with Mr. Phillips throughout the many years the latter was the dynamo of one of the most progressive and constructive Game Commissions Pennsylvania ever enjoyed, Mr. Gordon traced the creation of the world-renowned refuge system from the days when John M., as Mr. Phillips is intimately known to the sportsmen of the state, first noted the possibilities of affording such protection to the present-day projects which blanket the state.

It was a grizzly bear, heading for the sanctuary provided by Yellowstone National Park, which first gave Mr. Phillips the idea of creating such protective areas back home. The year following the incident led to the establishing of a vast refuge in British Columbia. A few years later in 1905 to be exact, Pennsylvania laid the foundation, in Clinton county, of the system which eventually was to bring back the bear and deer of a state practically depleted of its big game animals.

Al Lashley, president, New Kensington Chapter, Izaak Walton League, and chairman of the convention committee, introduced Frank Horne, Burgess of Arnold, and past president of his local chapter, who in turn introduced the various speakers which included the Rev. G. Darlington Kulp, Reading, re-elected president of the state division.

Readers will recall this gentleman as being the man of the cloth whom some of his parishioners sought to defrock because of his activities which eventually led to the passage of the Sunday Fishing Act.

Kenneth A. Reid, formerly of Connellsville and now general manager of the national headquarters of the Izaak Walton League at Chicago covered in detail the broad and expansive program of this national conservation organization and stressed the need of a more active interest in the conservation problems of the nation, deploring particularly the apathy of the public to the purification of streams, while the lobbyist of the polluters worked tirelessly for a continuation of their nefarious practice of defiling the waters of the people.—John Mock, Pittsburgh Press.

MONTGOMERY FEDERATION ON CONSERVATION TOUR

The Federation of Sportsmen's Clubs of Montgomery County recently sponsored a tour of the various conservation undertakings in that part of the State under the direction of Ambrose Gerhart, County Game Protector. Harry Z. Cole, County Fish Warden, Irwin Clemens, President of the Federation, and Private Meyers of the Pennsylvania Motor Police, who escorted the 26 cars full of members from the following fifteen clubs affiliated with the Federation: Huntington Valley Fish and Game Protective Ass'n.; Lansdale Sportsmen's Club, Inc.; Lower Merion Rod and Gun Club, Inc.; Royersford Hunting & Fishing Ass'n.; Souderton Game, Fish and Forestry Ass'n.; Upper Providence Fish, Game and Forestry Ass'n., and Wissahickon Field and Stream Ass'n.

Starting from Norristown, the group was first conducted to Abrams, (the Beidler farm) and then to the French Farm in Collegeville, at which places Mr. Cole explained the fish propagating ponds in which approximately 100,000 fish are being raised at this time.

At the Eastern Penitentiary, Graterford, Ambrose Gerhart and Ira J. Mills, Director of Agricultural Education of the Penitentiary showed the party the pheasants and fancy birds which are being raised there for the

Federation. The group then proceeded to the Fisher State Game Farm, Schwenksville, where the Superintendent, Mr. Warfel, briefly outlined game propagation methods.

The last stop was made at the new Montgomery County Park, Green Lane which consists of 400 acres, 27 of which will comprise the water area above the large dam that is now nearly completed. When the dam is completed and filled with water, it is to be stocked for fishing.—Mrs. Ellen A. Dietrich, Chairman, Publicity Committee, Montgomery County Federation.

A pheasant banding program, intended to aid in gathering information about the life and habits of these game birds, has been adopted by the Red Lion Fish and Game Association this year. Over 400 birds, all raised in the association's rearing pens from day-old chicks furnished by the Pennsylvania Game Commission, have been liberated this fall, each bearing a metal leg band, with a number and the mailing address of the association.

Hunters who kill a bird with such a band are requested to return the band, along with information as to where and when the bird was killed, to the association.

WITH THE CLUBS

The Five Mountain Hunting and Fishing Club, Shickshinny, Pa. E. H. Thompson, Shickshinny, Secretary.

Not long ago, while discussing the qualities of modern rifles and shotguns with a friend who has made something of a study of the evolution of these arms, he brought out some notes he had made during his research. They are unusually interesting and completely authentic.

Today, among the varied methods of hunting deer, there is the "drive" method and, after having witnessed about fifty men noisily conducting one in the New Jersey pinelands last Fall, we were amazed. Upon looking at our friend's notes, however, we realized that this drive was a mere nothing compared to some that were held 175 years ago.

In those days hunting was not so much sport as it was work, for the outlying colonists were not men to waste powder. When they joined together for a drive they meant business, and although some of the game killed was not especially good eating, they were able to put the fur or hide to good use.

Record of 1760 Drive

This friend of ours had a record of one drive conducted in 1760 in Southern Pennsylvania. About 200 men participated, and according to the report the following game was killed: "41 panthers, 109 wolves, 112 foxes, 114 mountain cats, 17 bears, 2 elk, 198 deer, 111 buffalo, 3 fishers, 1 otter, 3 beaver, 12 gluttons (wolverines) and 500 small animals." Based on a table of average weights for the various animals our friend figured that a total of 154,000 pounds of game was killed that day by the 200 men, which gave each man more than 750 pounds.

We have heard of men, a few men, who had methods for making fish ducks palatable, but we have never heard of any recipe for cooking panthers or wolves that was satisfactory, so it is supposed that some of the meat went to the dogs. One of the things that interested us, however, was the comparative prevalence of predators as to game.

We have no doubt that if 200 men engaged in a drive in some parts of Pennsylvania today they could kill more than 198 deer before noon, but their kill of panthers, wolves, foxes, wolverines and mountain cats would be very small, and the big game census for Pennsylvania, made by the Bureau of Biological Survey, indicates that bears are comparatively scarce. There is a possibility, however, that the death toll of house cats gone wild would be large.—Raymond R. Camp, in Wood, Field and Stream.

AID TO DEER HUNTERS

The members of the York Rifle Range Association will operate a running deer target on their range in Druck Valley each Sunday in November. The target in size, shape and color, as it moves on the track, closely resembles a live deer running through the brush. When a hunter is ready to shoot, the

NOTICE! SPORTSMEN'S ORGANIZATIONS

When informing this office of the election of new officers, please include the NAME AND ADDRESS OF THE FORMER SECRETARY.

This is imperative before the club may be included on the mailing list for the GAME NEWS.

EDITOR.

deer comes into view, and the hunter is permitted one shot while the deer is standing. This is a signal for the deer to move and as it travels, the hunter may shoot at the target as often as he can fire his gun. The deer travels approximately 100 yards at a speed of about 20 miles an hour. A miniature deer target, on which the hits are scored, is given to each shooter. All deer hunters are invited to visit the range and take advantage of the opportunity to gain practical deer shooting experience before the season opens.

A small fee will be charged to cover the cost of maintaining the target.

Competent assistance will be given to any one who wants to test his rifle and adjust

the sights, before shooting at the deer target. A trap will be in operation for those who enjoy that kind of shooting.

To reach the range, turn north off Route 30 on Sherman Street in York—or Mount Zion Road near Stonybrook—or at Krentz Creek near Hellam.

For more information, address E. G. Graser, 41 North Vernon Street, York, Pa.

All sportsmen's associations in and around DuBois with the exception of one recently merged into one large group in order to more advantageously and economically work out a conservation program for that community. The new club was named the DuBois Gateway Sportsmen's Association consisting of the following officers: President, J. L. Phillips; Vice-President, George Eck; Recording Secretary, H. E. DuBroux; Financial Secretary, F. J. Baker; Treasurer, E. Brasseur.

At the same time additional momentum was given the club by the creation of a junior organization. The younger group has already made plans for an elaborate winter feeding campaign and expects to do a lot of fruit and nut tree planting. The senior organization, on the other hand, is planning to establish a wildlife refuge under the Commission's new program and has already looked over several prospective tracts.



Erie Dispatch-Herald Photos.

Highlights of the Erie County Sportsmen's League field day program at the Game Farm Sunday are shown above. At the top is a portion of the field engaged in the trap shoot. The center photo shows the Fish-O course during a bit of action, and the bottom picture shows the start of the final coon dog trial. At the top, right, is Simon Mergenhagen with some ducks, his souvenirs of the day. At the lower right, Dr. J. J. Koehler, Sportsman's League president, is shown with Judd Turner, assistant executive director of the Pennsylvania Game Commission, who participated in the field day program.

WITH THE CLUBS



"Bert" B. A. Benson former Huntingdon County Game Protector, center with pipe, and Harold Fisher, President of the Huntingdon County Game, Fish and Forestry Asso., at annual field day.



Part of a group of trap shooters who participated in this outstanding event. Over 1800 attended the meet.

The sixth regular monthly meeting of the Hempfield Farmers' and Sportsmen's Association was held at the Landisville Fire House, Monday night, October 2, with nearly 300 members and guests present.

W. J. Staley president of the organization was in charge of the meeting, and reported that the 1,000 Safety Zone signs had been received by the association.

For the benefit of the Farmer or Landowner who may be interested in erecting these Safety Zone signs, they can be secured from the following persons in each respective district: Harry Hoffman, Jr., Rohrerstown; Robert Enterline, Salunga; Daniel Will, Chiques; Scott Nissley, Bamford; Fred Long, Landisville; Milton Bartzall, Mechanicsville; Floyd Zerphy, East Petersburg; Leonard Keck, Mountville; Alvin Greider, Centerville-

Oyster Point; C. G. Spangler, Ironville; and Arthur Mort, Silver Spring.

It was suggested to have the siren of each Fire House sound at 9:00 A. M. of the first day of the small game hunting season in the Hempfield area. This was put in the hands of the Directors of the Zones in which Fire Houses have been built and it is expected that they will cooperate with the association in this matter.

Speakers for the evening were, Alan Wiker, President of the Lancaster County Federated Sportsmen, Milton Dietrich, Deputy Game Protector, Mervin Murray, Deputy Game Protector, William Kopp, Secretary of the Lancaster County Fish and Game Association, Lyle Simmons, Secretary of the Columbia Fish and Game Association, Raymond Stetler, trustee of the Fair Play Hunting Club,

ARCHERS ACTIVE

The Pennsylvania State Archery Association held its annual tournament at York, September 2, 3 and 4 with an attendance of 159 amateur Robinhoods. E. H. Turnock, Wilkesburg won the important championship for Pennsylvania and Mrs. Helen Greason, Carlisle won the women's championship. The flight record was made by M. M. Roberts by shooting 400 yards. The ladies flight record was won by Mrs. W. D. Perry, Pittsburgh, who shot 295 yards. Miss Mary Martenis scored 36 hits for 264 points in the ladies clout shoot, setting a new high record in Pennsylvania. The Pittsburgh Archery Club captured the men's teams round by shooting a score of 2354, also a new high record. The York Archery Club captured the ladies team round by shooting a total score of 1677, setting a new record in this division. Mrs. Ruth McGowan of Carlisle, shot six gold in one and making her a member of the National Six Gold's Club. Next year the tournament will be held in Altoona, August 31, September 1 and 2. The Blair County Sportsman Association is backing the association in Altoona to help make this shoot a success.

A young French Canadian who reads Game News recently wrote in and said that he is in a position to act as a fishing guide for anyone contemplating a trip next summer up in the Gaspé peninsula country. If interested contact Mr. J. Clive Briand, Douglastown, Gaspé County, Quebec, Canada.

Interested students of the Bradford Senior High School recently organized a Junior Sportsmen's Club to cooperate with the McKean County Sportsmen's Association. It plans to meet once a month during the school year and to assist its foster association in every way possible.

while the principal speaker on the program was John M. Haverstick, Lancaster County Game Protector, who talked on the pheasant damage situation.

Harry M. Reed then showed seven different reels of sound motion pictures of interest to sportsmen. Floyd Zerphy, Zone Director of the East Petersburg area invited the group to meet either at the East Petersburg Fire House or School, on Monday night, November 6, when the program will consist of a running lecture with motion pictures, by Randolph Thompson, lecturer for the Pennsylvania Game Commission.

A pure white gopher, an animal extremely rare in zoological annals, was delivered to the Boise, Idaho, Zoo by John Smith, a farmer who caught the burrowing creature while irrigating his fields.—Harrisburg Evening News.

WITH THE CLUBS

Bill's Fred, Classy white and liver ticked pointer, owned by Dr. J. T. Dougherty of Girardville, Pa., and ably handled by Joe Cannon of Lavelle, captured the open all-age stake, feature event of the sixth annual fall field trials, of the Keystone Setter and Pointer Club of Reading, Pa. Fred gave a brilliant display of bird and ground work and was a very popular decision to the approximately nine hundred sportsmen and sportswomen who lined the course at "Sports Acres", the well stocked trial grounds of the Keystone Club. Immediately after being cast off, Fred swung to the left, and a minute afterwards had demonstrated his staunchness to shot and wing after his handler, Joe Cannon had produced the bird. Then the large audience was treated to a fine display of wide and searching running ability, after which he found and handled kindly two more birds in the bird field. The judges, Dr. C. I. Hoch, of Wilmington, Delaware, and Charles Forrer of Camp Hill, Pa., who handled all the stakes, were unanimous in their pick of Bill's Fred for the blue ribbon.

Ginger Bread's Fashion, orange ticked setter from the kennels of C. C. Hunt of Ocoola, Florida, and handled by Ed. Knapp, Waverly, N. J., ran a close second to the coal region pointer. Ginger ran plenty wide with grand style but only produced two birds to her handler's gun. A divided third was awarded to Mark Spachts' great pointer, Sylvan Joe and Gentleman Jim Day, a liver and white pointer, owned by I. W. Day of Muhlenberg Park. Both dogs were handled by the dean of Pennsylvania dog trainers, Bob Bell of Gettysburg. Pressing hard on the heels of the winners, for recognition, was an octette of other good dogs from the twenty-three that faced the starters' whistle.

Four Winds Arrow, Dr. H. E. Longsdorf, Mt. Holly, N. J.

Highland Sue, Dr. E. K. Tingly, Marietta, Pa.

Dr. Jack Rose, Dr. H. E. Longsdorf.

Mr. Floating Power, Sol Cashman, New York City.

Bellview Dan, Joseph A. Camp, Egg Harbor, N. J.

Allegheny School Girl, Sol Cashman.

Sherman's Dan, Dr. Sherman Ames, Easton, Pa., and Belvidere, G. Dawson Coleman, Rosemont, Pa., not quite good enough to win.

In the Open Shooting Dog stake, another coal cracker, Mauva Dell, swell little pointer bitch, owned and handled by James Yontz of Sunbury, demonstrated plenty of class to win over twenty-two real good pheasant dogs. Second place was captured by Dr. Carl Williams of Philadelphia, who piloted his fine setter, Hiker's Briars' Thorn to a position one notch higher than she ran in the same stake at our trials last spring. Third place was agreeably awarded to Doc. Pucher, a male setter, owned and ably handled by

our well liked sportman, Harold M. Watson of Cornwell Heights, Pa.

The Open Derby starting event of the two day trials was contested by sixteen up and coming young dogs. Abner, lanky pointer owned and handled by C. F. Sloan of Plainfield, New Jersey got the nod and the trophy. A fine running dog, one you will hear plenty about in the future. Lucky Bill, pointer dog, owned by Dr. C. E. Wagg of Lambertville, N. J., and handled by that indomitable Irishman, old Tom Camiody of Lambertville, ran a close second. Kasco Little Shot, flashy little female setter, handled by Ed Knapp and owned by Kasco Mills of Waverly, N. Y., was a well accepted third. Other dogs competing and of which more will be seen in

future events, were, Bottled Esso, pointer, owned by E. S. Ward, Hanover, Pa., Kasco Half Shot, pointer, Kasco Mills, Golfshire Seaview Sport, pointer, James L. Kirby, Shillington, Pa., Equity's Dinah Mite, setter, Fred Mettam, Plainfield, N. J.; Heper, pointer, Dr. E. K. Tingly, Marietta, Pa.; Tarengo Judy, pointer, Jules Frank, Philadelphia, Pa.; Garwood Dan, pointer, John J. Sharp, Westville, N. J.; and Lakewood Farms Doc, setter, John H. Miller, Clayton, N. J.

Many thanks are due the judges, Mr. Forrer and Dr. Hoch for their hard hours in the saddle under a very hot sun, and for their well applauded selection of winners from a brilliant field of sixty good dogs, always pals and indispensable in the hunting field.



Members of the Boulder Valley Sportsmen's Association liberating ringneck pheasants. Left to right: Arthur Moyer, Russel Moser, Samuel Moser, Paul Kolb, and Melvin Musselman.



Some the winners in the Keystone Setter and Pointer Club's Sixth Annual Field Trial mentioned in column opposite. Left to right: Mauva Dell, owned and handled by James Yontz, Sunbury; Hiker's Briars' Thorn, owned and handled by Dr. Carl Williams, Phila.; and Doc Pucher, owned and handled by Harold M. Watson, Cornwell Heights.

FROM ACROSS THE WATER

« « « By W. Newbold Ely, Jr.

ONE of the many tragic by-products of the war is in our September 8 issue of the English "Horse & Hound." Running usually from forty to sixty pages, it has dropped to twelve with no racing news because now there are no races, no horse show news because now there are no horse shows, no hunt meetings. A few paragraphs on the sport with otterhounds concludes this saddening issue with the advertisements on "Horse Gas Protectors," "Sam Browne Belts," "Map cases," "Air Raid precautions—Send your horses to a secluded spot in Devonshire," etc., etc.

But in no better way can calm temperament of the English be better illustrated than by the editorial in this selfsame issue:

"The Die is Cast.

"For some time it has been apparent to many of us that the foreign and economic policy of Germany would, unless moderated, result in another European war. Now that it has come it is difficult to realize the dark days that must lie ahead. In England the watchword is "business as usual." Except for the strained faces one sees in the streets, and the cardboard gas-mask containers hanging from every shoulder, there is surprisingly little evidence that hostilities exist. Yet poison gas is being dropped upon the civil population of Poland, and "somewhere in France" men are standing ready to face death in all the forms that modern ingenuity can provide. All this is due to the influence wielded by a comparatively small group of fanatical warmongers, whose policy of hate and rabid nationalism has

reduced Europe to these straits. The temper of the English is vastly different from 1914., when war was still an adventure, and the long casualty lists were still a thing of the future. We are committed to a struggle for decency, justice, and right, well knowing the cost which must be paid to preserve our civilization. In our hearts there is no hate against the German people, the butchers, bakers, country squires, and artisans, who will be forced to give their lives in defense of the ideology that has brought them to war. And when we have prevailed, the settlement will be made with the knowledge and experience of the last twenty years. Whatever the next few months may bring, it is the traditional coolness and resources of this nation that will be the deciding factor."

Such are the qualities which we Anglo-Saxons inherit from these distant British Isles—qualities which in turn we pray may keep our country calm, neutral 'midst the waves of propaganda and hysteria,—foreign and domestic, political and mercenary,—which are being directed at us just as they were in the last war.

Our British cousins would have been happy to have heard the toast at the delightful dinner given by Stanley Reeve, Plunket Stewart, Radcliffe Cheston, and Arthur Meigs to meet the Bryn Mawr judges. It was a toast to them—our beloved English friends and sportsmen—as fellow foxhunters, with a prayer that they might soon again be out of kahki and back in pink answering the "Gone Away" at the covert side—somewhere in England.

THE MAIL BAG

Dear Editor:—

I see by reading your magazine you invite comment from your readers. I wonder if you would please print this letter for me. Probably I and some other guys likewise in the same spot can get some help. You see I was just elected this year as President of our local sportsman club, and I don't know what to do to get away with the honor.

Naturally our Club has a lotta fine fellows and a few grand gals on its membership rolls. We have picnics, beer suppers, raffles, shoots, and door prizes. Yes and we have begged the Game Commission for rabbits and pheasants, and the Fish Commission for trout, blue gills, perch and catfish. We beg the public at large to buy raffle tickets, and to let us hunt.

Ninety percent of our members do not control, pay taxes, or mortgage interest, or in any other way support one square inch of hunting or fishing country. We have to beg all that.

Oh yes, we buy a few trees from the state and give to land owners for reforestation projects. We stuck some willow switches along a creek. We buy bushels of feed for winter distribution. Otherwise our whole serious thought is on fishing and hunting.

What we want to know is how we can justify our demands on landowners for any rights to invade their properties or to interfere with the routine of their business of farming or the privacy of estates and residences.

What can we do to make ourselves useful to the community, besides turning out fish and game, and then go chasing after it. To date our whole attitude is purely selfish, and we do nothing of any practical value to any one except those who wish to hunt and fish.

If you have some brainy people among your readers, will you please beseech them to write us some constructive suggestions on procedure?

Very truly yours,

A. SAP, Pres.

In a letter to the Editor the other day J. W. Kistler, of Perry county, who has lived in the heart of the wild turkey country for the best part of his life, tells about his experiences in hunting these wily birds.

"Hunting the wild turkey requires a lot of patience and endurance. I have been very successful in killing quite a few turkeys in my time and have learned a lot of their habits. Many a time it has required long hours of waiting and sometimes I almost lost my patience, but in the end the thrill I got out of the kill more than compensated me for all my discomforts.

"To get the best results in hunting turkeys a fellow has to use the proper equipment—a good gun and a proper load. First off, let me say that a turkey is very easily killed. Mustard seed would kill one if you ever got close enough. However, for best results I recommend No. 2 or No. 4 shot as both make good clean kills where a small shot would only cripple the bird and it would fall easy prey to foxes, owls and other predators. Use a heavy load and shot heavy enough to kill and whenever possible kill a gobbler. That is the wish of the Game Commission because it will help maintain the birds on a shootable basis for many years. The turkey call is now a legal device and may be used for hunting wild turkeys. To have one and to know how and when to use it is an asset to any hunter.

THE IRISH SETTER

(Continued from Page 12)

for looks at the expense of "class." His looks already have been the red dog's downfall. Don't keep just pressing him down.

3. To red dog backers I would say see more of the other breeds. Go to the prairies, to Grand Junction or to Georgia and see the major circuit field trials. Get an eyeful of what the red dogs will have to beat to win. Go often. Get imbued broadly with the best

"class" standards of performance. Don't confine yourselves to Irish setters. That will but hurt the dog still more. Run Irish setter field trials—sure! But only as a preparation—not as an end. And neither give nor take—nor even want—any sort of "Championship" title in connection with such wins where other breeds are barred.

4. Dig up the few Irish setters good enough at least to try against all comers—and see that they are properly trained on

and given the chance. Give them group backing, if individual owners can't afford it. Do this for the good of the breed. Be broad—not selfish.

What is there to work on today as a foundation? I know there must be a limited few Irish setters here and there that touch close to class. At Clinton, New Jersey, last April I saw three Derbies worthy of "going on." I sure hope they do. But the crying need is for more such—and I'm for them!

FOREST MANAGEMENT ON STATE FORESTS

(Continued from Page 9)

avoidable. Whenever they are available, several large-crowned trees, which produce game food or provide homes for game, will be left on each acre, even though they are of inferior species or of poor form from the standpoint of timber production". Numerous thinnings have multiplied many-fold the deer food producing power of a very substantial acreage. The fact that deer have frequented such areas in large numbers is attested by the tracks and by personal observation. In accordance with this, the instructions, to which I have previously referred, provide further that "as much winter cuttings as possible is desired to make the twigs and buds of lopped brush available for deer food". Likewise attention should be called to instructions concerning the preservation of specimens and clumps of thorn trees of various kinds which provide a haven of refuge for small birds when hunted by hawks, owls or predatory animals. Although as a general rule, brush resulting from improvement cuttings is lopped and scattered so that it will rot in a comparatively few years and thus minimize the fire hazard, orders have been given for the occasional construction of small game shelters made by piling brush over logs and stumps. Then, too, although the instructions provide for the cutting of grape vines when they interfere with trees of desirable species, the regulations also indicate that here and there small areas may be devoted to the growing of grape vines and that trellises or arbors may be erected of dead chestnut poles. References to operations of the kind which I have been describing are not to be found in the treatises on Forest Management written and published twenty years ago. Methods in all branches of endeavor have been changing during recent years, and so also with forestry. Our profession is endeavoring to keep abreast of the times. The road, over which forestry practice is traveling, has been constantly changing—the grade is different, the alignment has been improved, the curves have been elevated—but the ultimate destination is the same. The vehicle, in which forestry practice is riding, is no longer horse-propelled as it was a quarter of a century ago, its chassis and body are not those of a dozen years ago, but streamlined in accord with the latest style. The direction in which it is progressing, however, is the same; in the final analysis, its goal remains unaltered.—
Paper delivered at annual meeting Pennsylvania Forestry Association, Cook Forest Park, Sept. 22 and 23.

PLAY SAFE
WEAR RED

Field Notes

"Several hundred thousand trees have been planted by C. H. Shaffer, Federal Forester, and S. M. Miller, Project Manager, on the Blue Knob National Park. Some of the game food species and the number are as follows: soft maple, 15,000; pin oak, 7,000; persimmon, 800; black cherry, 15,000; rock oak, 175,000; hackberry, 1,000. They have also planted five acres in Pennsylvania game food patch mixture. Mr. Shaffer has a nursery on the area in which are several hundred thousand trees, a lot of them food species such as butternut and poplar. Both men deserve a lot of credit for their interest in game management on the Park area."—Game Protector Bruce Catherman, Cambria county.

"Sunday, September 24, 1939. Clarion county. A pack of dogs chasing deer forced a six point buck to leap over a 100 foot cliff into Deer Creek. The animal was killed instantly, both horns having been broken off,

HUNTER'S ALMANAC

The New Hunter's Guide and Almanac of 1939-40 is just off press and can be secured by addressing a communication to the Haywood Building, Lafayette, Indiana, for \$1.25. It contains 200 well illustrated pages on where and when to hunt in the United States, Canada, Mexico and Alaska, as well as much other valuable and timely data of interest to all those who pursue game birds and animals with gun, rifle, or bow and arrow.

neck broken and the back and hips badly crushed."—Duane E. Lettie, Game Protector, Venango county.

"During the month of September I have had two grouse fly into houses within the city limits. One flew against the side of a house and killed itself, the other flew through a window, tearing the curtain from the roller. This bird was only slightly hurt and was released a safe distance from town."—L. E. Linder, Game Protector, Warren county.

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STAMPS NOT ACCEPTED.



C C C personnel building dam on State Game Lands No. 12.



"Coon my hat—That's coal dust around my eyes."

A BROAD OUTLOOK ON CONSERVATION

(Continued from Page 11)

tion of adequate numbers and variety in national forests elsewhere, the task of education faces the supervisor more than anything else. Education as to what needs to be done, why it should be done, and what results may be expected all based on the findings of sound research is an important part of wildlife management on the national forest. In closing Mr. Mattoon said that the U. S. Forest Service can and will assist in the solution of all these complex problems wholeheartedly.

W. E. Montgomery, of the Pennsylvania Department of Forests and Waters, gave a splendid resume of the many wildlife activities which that department is carrying on in cooperation with the Game Commission, and it gives us a great deal of pleasure to reprint his talk in full on page 8 of this issue.

Seth Gordon, Executive Director of the Game Commission, discussed the subject of "Our Forests and Wildlife Crops". He stated that it was quite evident that all the agencies concerned were beginning to speak the same language and pointed out that a well defined program of multiple use of forest resources was not only arousing interest in

Pennsylvania but all over the country. From its very beginning, the Game Commission has not only devoted its activities to game but included in its program many other things, such as the protection of songbirds and valuable fur-bearers, as well as the wise use of game lands acquired from the standpoint of timber, wildlife and recreation. He pointed out that even in early days Dr. Joseph Rothrock, grand old forester of the Commonwealth, and Dr. Joseph Kalbfus, grand old man of the Game Commission, worked together in the interest of multiple forest use. Mr. Gordon also cited an example of forest evolution which possibly has been overlooked throughout the years, by referring to numerous little towns scattered throughout the Commonwealth which were once booming lumber centers but which are now occupied by only a few backwoodsmen who eke out a livelihood throughout the year by boarding, lodging, and guiding hunters and fishermen. In his closing remarks he said that he hoped that ultimately there might be acquired for the Commonwealth twice as much State forest lands as are now vested in the Commonwealth, namely 5,000,000 acres, claiming the desire for recreation whether with rod, gun or camera is becom-

ing so great that only the addition of more State forests can ultimately hope to meet the demand of such an ever-increasing outdoor public.

James N. Morton, Chief of the Division of Land Management of the Game Commission, gave a most interesting talk on the "Development of Forest Areas for Wildlife". He said it wasn't so very many years ago that different groups looked at the forest and they saw different values in it, and each group was prone to think that it alone saw the whole picture, whereas each was seeing only a small part. The group interested in timber looked at the forest and saw so many sawlogs, and their interpretation was apt to be that the area would yield a good crop of lumber only. The group interested in wildlife looked at the forest and saw so many hiding or feeding places for wildlife, and their interpretation was that it was a good or poor hunting ground. The group interested in recreation looked at the forest and saw only so many picnic spots, and their description was that it would make a good park if some more of the underbrush were cleared out. One group gave no consideration to the interests of the other group. There were, of course, conflicts and differences of opinion.

Today, he claims, we have gotten away from the narrow restricted view of the forest and we have eliminated many former differences of opinion. The various groups now sit down together and discuss their common problems. It gives everybody a chance to get a clear picture of the whole problem.

We have come to recognize the forest as more than stands or groups of trees, and more than just a home for wildlife. We now consider it as a community of plants, animals, and birds, of which trees are the most important members. In other words, forests are now looked upon as areas of land on which various forms of plant, animal and bird life are associated.

Mr. Morton stated that nearly one-third of the United States is forest land. We consider almost one-half of Pennsylvania as forested. A large part of the wildlife in the United States valuable as food, fur and hunting, or for esthetic purposes, is found in our forests. Its welfare in connection with other resources is therefore, an important part of the management of forest land.

He claims that wildlife directly interests more than 13,000,000 people who hunt and fish. It helps to support many more, and adds to the happiness of millions of others who are eager to catch glimpses of wildlife in its home environment. Because of this public interest in wildlife, he said, and because our forests comprise such an important part of the environment, it naturally becomes necessary to recognize it in the plans for management of forest areas.

He pointed out in order for a forest area to be most attractive to wildlife it must provide a suitable home. Large areas of forest land in central and northern Pennsylvania do not provide satisfactory habitats for wildlife, largely because these areas are covered with trees where the crown canopy has closed, and the understory of tree and shrub growth essential as browse for deer and necessary in furnishing food and cover for other wildlife is shaded out. On such areas cutting operations are vitally neces-

sary, if each section is to maintain the wildlife population which it can and should support.

He said that on the State Game Lands, which now total more than 600,000 acres, cutting operations are conducted in order to make them more suitable for wildlife. At the same time we do not lose sight of their value in producing a timber crop. Wherever the timber is large enough to market for pulp wood, mine ties, chemical wood or lumber, timber sale contracts are made. In other areas it is necessary to carry on thinnings or other cuttings in order to open up the crown canopy of the trees, permit the sunlight to enter, and stimulate the understory of plant life. In this connection, splendid cooperation has been received from the Department of Forests and Waters in their improvement cutting operations by C. C. C. Camps. These improvement cuttings are made in the interests of wildlife and to benefit the remaining trees.

He called attention to the matter of forest thinnings, saying that either from the standpoint of good forest growth or better wildlife habitats, thinnings, as is well known, are one of the most important cultural operations in any dense stands beyond the sapling stage. Thinnings have several beneficial effects for wildlife. The trees in thinned stands produce earlier and larger crops of seed. The openings produced are very valuable in promoting advance growth of hardwoods, shrubs and herbs useful as food by wildlife. They likewise stimulate the growth of the remaining trees.

He also called attention to release cutting on other areas, which requires the removal of competitive growth from around clumps of hawthorn, grape, dogwood, hazelnut, bittersweet, and other game food producing shrubs and vines in order to stimulate their growth and the production of fruit. These cuttings are easy to carry on and they do not require the sacrifice of much valuable timber. They do mean a lot to wildlife. The plots not only insure a food supply, but they insure a variety of food. Millions of game food plants have been released from suppression. As is well known, practically all of these game food producing shrubs and vines require sunlight for growth and for fruiting. Whenever they are overtopped or suppressed by surrounding growth they cease to fruit properly and eventually die out.

Mr. Morton reported that on other State Game Lands where there is abandoned farm land, and especially in the wild turkey and quail territory, food plots are planted to various kinds of grain in order to supply additional winter food. In other places it is necessary to plant evergreens in clumps or strips to supply cover and, where they cannot be produced naturally, game food producing trees, shrubs, and vines are planted.

During the spring of 1939, he said one and a quarter million evergreens were planted on State Game Lands to improve cover conditions for wildlife and for timber production. Almost one million game food producing shrubs, vines, and trees, and 175,000 cuttings were planted for the benefit of wildlife.

In closing he said he was certain that with the active cooperation of such organizations as the Pennsylvania Forestry Association we

can expect more interest to be taken in developing other forest areas in the interest of wildlife. If the Association is able to do for wildlife what it has done for forestry in the State, our hopes will have been realized.

Dr. Logan J. Bennett, of the Pennsylvania Cooperative Research Experiment Station at State College, opened the morning session with a very interesting discussion of the relation of wildlife to the forest. He spoke upon the ecological life history and management of the wildlife therein. Among other things he pointed out that there are thirteen year round game species within the Commonwealth except waterfowl, all dependent upon each other to a greater or lesser degree, as well as to the smaller creatures such as mice and other lesser forms, all of which have their place in the ever-moving merry-go-round of existence. He went on to explain how the study of one particular species of mammal or bird touches a great many other forms of wildlife, and how each in its own little world wields its particular influence on every other form. He stated, for instance, that there are fifteen species of mice in Pennsylvania, admitting frankly that not much is known about all of them or of their population densities. Nevertheless, he cited their place in the wildlife program by explaining that they may contain parasites which might be the hosts to parasites of some game animals or birds, and how they serve as buffer food crops for other animals and birds. He also said that in some instances after the deer have eaten everything down, the mouse population, if very great, tends further to keep the forest floor from recovering its luxuriant growth. In citing the rela-

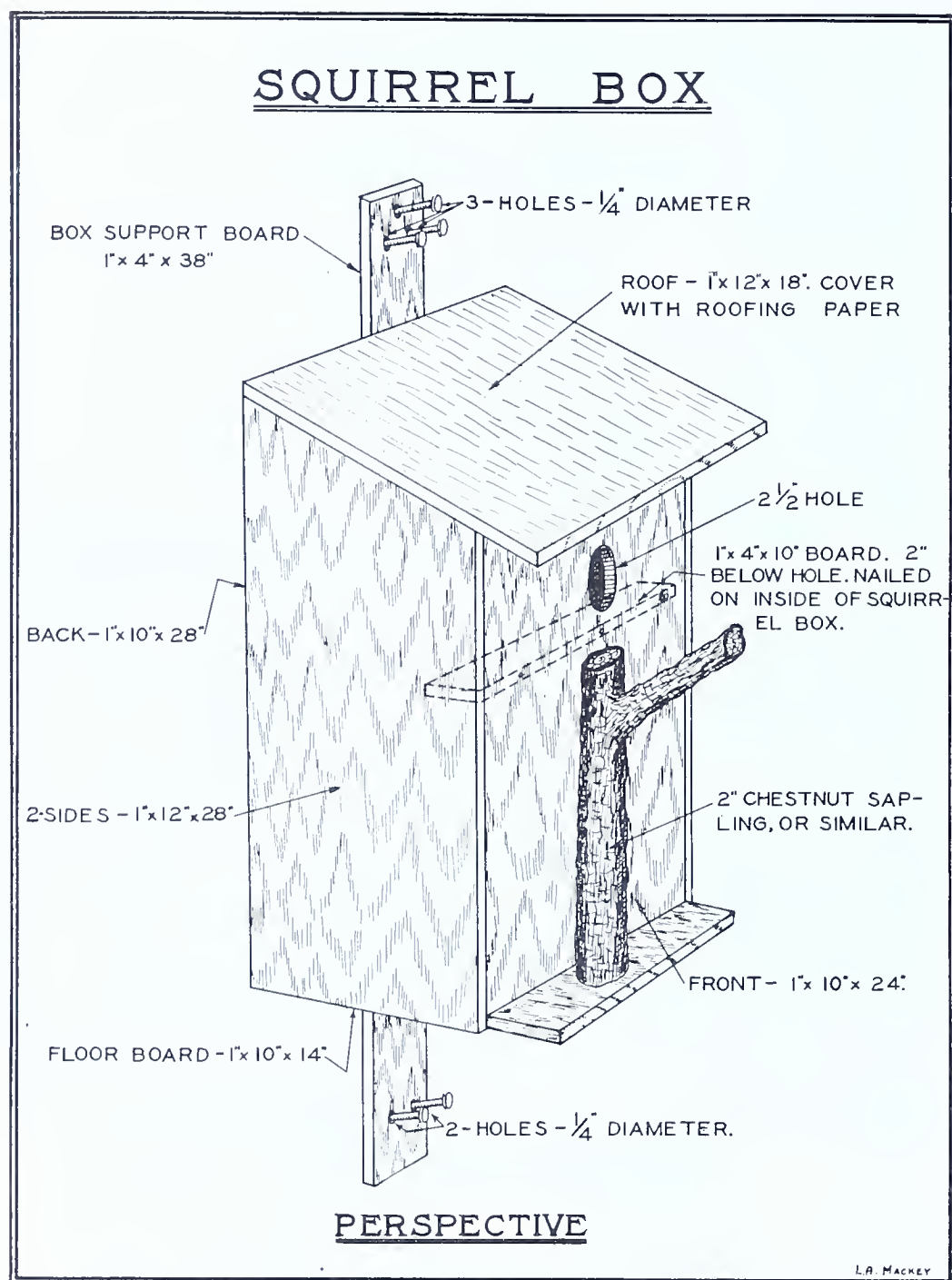
tionship of woodchucks to other species, he pointed out that they must have many complex relationships to other animals, and that only by a complete study of the life histories of the various forms of forest life can we hope to fully understand the proper relation of one form to another.

John Youngman, President of the State Federation of Sportsmen's Clubs, opened up a treatise which created considerable interest. He called attention to the organization of the Federation, claiming that there are now over 200,000 paid up members. He also called attention to the growing interest that sportsmen are taking in all forms of wildlife conservation. Every sportsman's association is game food and cover-minded, he said, and they are more intelligently helping to work out the many practical phases of game management. He reiterated the fact that there must be a method of approach to all conservation problems wherein the hunters, the fishermen and forestry men are equally benefited. He also stressed the possibility that controlled burning may have its advantages, and asked the representatives present to give the matter serious consideration. He claimed that until proper experiments are made the question of whether or not controlled burning has any value cannot be intelligently answered. Mr. Youngman also called attention to the pollution problem, using the Clarion River as an example. He claimed that if public opinion was so moulded as to recognize the potential property values of lands along streams, as well as the recreational values, it would result in a much quicker solution to the pollution problem.

(Continued on Page 30)



"I'll take this outfit—what did you say it's for?"



"Sketch of a practical nest box designed by Game Protector Raymond Holtzapfel. The box should be placed at least 40 feet from the ground and face the east or south when possible. It should also be placed above a large limb for support, where possible. It is important that the boxes be as deep as shown in the sketch. Mr. Holtzapfel has made hundreds of these with his WPA project, some of which were occupied within 24 hours after being placed in trees."

A BROAD OUTLOOK ON CONSERVATION

(Continued from Page 29)

Landowners who live and own land along any lengthy stream which is polluted could help wage warfare against the polluting industry in an effort to increase the value of their property, thus adding other allies to the cause of stream purification.

Three resolutions were passed at the Conference, all of these proposed by William B. McCaleb, former member of the Game Commission. One extended a vote of thanks to Thomas Liggett, Pittsburgh lawyer, for his untiring efforts in acquiring Cook Forest as a State Park. Another recommended that the U. S. Forest Service be retained as a part of the Department of Agriculture, and the third recommended that officials of the Pennsylvania Forestry Association, the Department of Forests and Waters, the Game Commission, the Fish Commission, the Soil

Conservation Service, the Federation of Sportsmen's Clubs and other organizations interested in our natural resources meet to discuss further plans for multiple use of the forest in accordance with the keynote of the Conference.

The meeting was ably presided over by W. K. Thomas, President of the Pennsylvania Forestry Association, assisted by H. Gleason Mattoon, Executive Secretary.

Officers present included Francis R. Cope, Jr.; Wm. S. B. McCaleb, Edward C. M. Richards, Edward Woolman, all Vice-Presidents, as well as the following:

Hon. H. G. Andrews, Johnstown; H. M. Amsler, Clarion; Robert C. Auker, Phillipsburg; V. M. Bearer, Ligonier; Charles M. Boardman, Pittsburgh; J. H. Barkley, Punxsutawney; Donald Barkley, Punxsutawney; Victor Beede, Department of Forestry, State

College; Dr. Logan J. Bennett, Biological Survey, State College; E. F. Brouse, District Forester, 15 Montgomery Trust Arcade, Norristown; Karl R. Bierly, Brookville Republican, Brookville; N. G. Brayer, Sharpville; Harry F. Beegle, Claysburg; A. W. Cook, Jr., Cooksburg; Frank Crawford, Punxsutawney; Francis R. Cope, Jr., Dimock; J. L. Caldwell, Marion Center; A. A. Dupre, Laughlintown; Gilson W. Davis, Harrisburg; William F. Dague, District Forester, Clearfield; E. O. Ehrhart, Johnsonburg; R. F. English, State College; R. Lynn Emerick, Dept. of Forests & Waters, Harrisburg; J. H. Eberhart, Butler, R. D. 7; J. F. S. Fletcher, Dimock; Reginald D. Forbes, United States Forest Service, Philadelphia; P. Galbraith, New Florence; O. Ben Gipple, Middletown Press, Middletown; Mrs. Seth Gordon, Harrisburg; Seth Gordon, Pa. Game Commission, Harrisburg; A. F. Hough, Allegheny Forest Experiment Station, Philadelphia; R. D. Henderson, Brockway; R. F. Hess, Osceola Mills; Merritt J. Harding, District Forester, Clarion; R. R. Houpt, Warren; O. E. Jennings, Carnegie Museum, Pittsburgh; Irvin M. James, Doylestown; Mrs. Irvin M. James, Doylestown; M. M. Kaufman, Clarion; Steele R. Kime, Mahaffey; Adolph Kammrath, Clearfield; D. C. Lefevre, Indiana; Mrs. Paul Lewis, Strafford; C. W. Lilly, Clarion; Leo A. Luttringer, Jr., Pa. Game Commission, Harrisburg; W. E. Montgomery, Dept. of Forests & Waters, Harrisburg; M. A. Mattoon, U. S. Forest Service, Washington, D. C.; James N. Morton, Lemoyne; Ellweyn P. Morris, 16 W. School Lane, Germantown, Phila.; V. C. Miles, Soil Conservation Service, Indiana; H. Gleason Mattoon, Commercial Trust Bldg., Philadelphia; R. McCain, U. S. Forest Service, Warren; William S. B. McCaleb, 505 N. Front St., Harrisburg; John M. Phillips, 2227 Jane St., Pittsburgh; A. L. Roser, Punxsutawney; Edward C. M. Richards, West Chester; H. H. Reed, Somerset; C. P. Shield, Johnsonburg; G. E. Spinney, Warren; Milton Titus, Bradford; David R. Titus, Three Springs; Wilbur K. Thomas, Lansdowne; Mrs. Wilbur K. Thomas, Lansdowne; Vern A. VanOrder, Marienville; Bert S. Walker, Berlin; Dr. E. A. Wilhelm, Clarion; Edward Woolman, Haverford; John C. Youngman, Williamsport; Mrs. John C. Youngman, Williamsport; Charles E. Zerby, Johnstown.

IMPORTANT!

Please Read This!

In order to create a better feeling between land owners and hunters we appeal to the hunter to:

1. Ask permission to hunt.
2. Be careful of fire.
3. Do no property damage.
4. Respect all privileges granted.
5. Report all violations.
6. Don't forget to sign your license.

**HUNTINGDON COUNTY GAME,
FISH AND FORESTRY
ASSOCIATION**

The above notice was printed on small cards and handed out with each hunting license by the County Treasurer of Huntingdon County.

Conservation - Nationally and Internationally

(Continued from Page 10)

ters last fall came very close to killing the annual increase.

Following the report from Doctor Lincoln concerning the prospective waterfowl supply in which he reported breeding conditions quite favorable in the prairie provinces of Canada and our own prairie states (where the bulk of ducks are raised), with the probability that the water supply would hold out until the young birds could fly, each of the state representatives present was asked to present recommendations in behalf of his state for waterfowl and other migratory bird seasons.

To the writer's surprise, quite a number of states asked that the possession limit be made only the legal limit that might be killed in one day. Apparently the only reason for this recommendation was the difficulty certain states are experiencing in the enforcement of their laws. A number also requested that the use of live decoys in limited numbers again be allowed. Some of them asked that feeding be permitted. Quite a few wanted shooting earlier in the morning and later in the evening. The great majority of them, however, made recommendations which were pretty much in accord with the final regulations as promulgated by the Federal Government. So far as Pennsylvania is concerned we got just about what we recommended.

I was tremendously impressed with the report from Senor Juan Zinser, Director of the Division of Game of Mexico. The Mexican government is moving right along with its game program and is cooperating splendidly in all international programs to safeguard migratory birds. Provision is now being made to protect Yellow Legs which in the past have been netted in large numbers and sold alive in that country. Mexico is also closely restricting and controlling the exportation of Bobwhite quail and permits no trapping of these birds within 75 miles of the border. She is also setting up a special four-year course to train men for wildlife work. Certain schools are already turning out men with special training, mostly for warden positions. The army helps to enforce their game laws.

By declaring an indefinite closed season on Big Horn sheep and antelope some years ago there has resulted an excellent increase with the possibility of limited seasons on both by 1942 or 1943.

In discussions on the activities of the U. S. Forest Service it was particularly gratifying to learn that all big game has increased on the National Forests except goats and sheep, which have decreased slightly in numbers. It was pointed out that poachers and predators are largely responsible for the decrease of the Big Horns.

In connection with the educational program, I heard one of the most interesting panels ever presented at any wildlife conference and was particularly impressed with the method of conservation education now being used in Tennessee. There officials work mainly with groups of teachers so that they may intelligently present the program

to their pupils. Conservation courses have been instituted in all Teachers' Colleges in Tennessee. A summer course for teachers is also given at the State University, with proper credits for those taking the courses. As you probably are aware, the Pennsylvania Federation of Sportsmen's Clubs recommended at its Conference in Harrisburg last January a similar program for our own teachers' colleges and a committee is now working on plans for submission to the Department of Public Instruction.

California's Junior Patrol also proved of interest. This Patrol is a cooperative set-up handled in conjunction with the schools. The educational work is maintained by the Department and local sportsmen's organizations jointly. Most of the members of the Junior Patrol are boys and girls just above the Scout age. The entire income from the sale of Junior hunting licenses in California at \$1.00 each, from \$25,000 to \$30,000 annually, is devoted to Junior work, which the Department feels is a small amount in comparison with the \$600,000 a year that the Department spends for law enforcement.

Missouri is sponsoring a group known as the Nature Guides, which appeals to the young people who must earn successive ranks in the organization by doing certain definite work. The expense to the department is very small.

The most important single resolution adopted by the International Association was the one with reference to the U. S. Forest Service, which I mentioned previously. Another

recommended the establishment of a national wild turkey research project in South Carolina to save foundation stock which is to be made available to the several states. Hon. J. B. Chalk, of North Carolina, was elected President of the International Association for the coming year, the writer being advanced to the first vice-presidency.

The next annual meetings of these organizations other than the Western Association and the conferences with the Survey and the Bureau of Fisheries will be held at Toronto, Canada September 2 to 6, 1940.

In a recent issue of the American Legion Magazine a brief account of curious posters was given. One of them mentioned was:

"NO FISHING
NO HUNTING
NO NOTHING"

If we are good sportsmen we will be faced with fewer such signs.

From Yakima, Washington, comes a report of a hen pheasant which hatched out a brood of Plymouth Rock chicks.

LOST!

An eight year old male setter. Black spot over left eye, tail broken near the middle. May be accompanied by a pup heavily ticked with black spots. Answers to the name of "Patch". Anyone finding the above dog may contact George P. Millington, 133 S. Twelfth St., Philadelphia, Pa. Reward.



Game Protector Chester Siegel's wife fed this tame deer regularly from the window of her kitchen on Game Lands 507 in Lycoming County.

WAR IN PENNSYLVANIA

(Continued from Page 13)

Game Lands, etc. Advancement was made in the many other phases of the Commission's general program during the year:

If you are joining up as one of the recruits in Pennsylvania's War, let's keep it as safe and sane as possible. There is no necessity for the human casualty list that appears each season. Be careful in handling firearms while hunting, also before and after. **Don't shoot at anything until you are sure it isn't a hunter**, and never shoot in the general direction of another hunter. Wearing lots of red is one of the best safety measures that can be practiced.

Every hunting season there is a vast amount of game killed and left laying in the fields and woods. This game is wasted. A little application on our part would stop this unreasonable waste, and the saved game would be used for seed stock the next year. Poor shooting causes a lot of crippled birds and animals that die soon after being hit. A little shooting practice before hunting season will work wonders with your game bag. The ammunition that is used for practice represents a saving later by reducing the number of misses. Next, when you shoot at game and can't locate it right away, keep searching until you are convinced that it was a miss. Always "Mark the game down" accurately and search for it systematically until found.

For the guidance of new recruits and as a reminder to the older ones, we are reprinting below the general orders governing all the field operations of Pennsylvania's hunting army in their war on wildlife.

The zero hour is 9 A. M., November 1, 1939. Wait!

Obey the Game Law.

Safety First. Look carefully before shooting.

Wear red on hunting clothes.

Practice shooting the year round.

Know your gun.

Mark game down accurately.

Don't leave wounded birds or animals!

Find them.

Never destroy or steal property.

Ask for permission to hunt.

Never use an old or unsafe gun.

Do not carry loaded firearms in a car.

Be careful of forest fires.

Do not take more game than the legal limit.

Keep your gun on safety or unloaded.

HAPPY HUNTING.

"Counted seven skunks, nine rabbits, and one pheasant killed on highway on a forty mile check."—Game Protector Raymond Sickles, Crawford County.

"On going to his farm one of my neighbors found a dead deer which he reported. Upon investigation we found that the buck had been killed by another buck. The jugular vein and wind pipe were completely severed."—Game Protector Cecil Hancock, Port Allegheny.

OFFICIAL 1939 OPEN SEASONS AND BAG LIMITS

Open season includes both dates given, Sundays excepted for game. **On November 1 no hunting of any kind before 9 A. M.** With this exception, shooting hours daily are 7 A. M. to 5 P. M., except from July 1 to September 30 inclusive 6 A. M. to 7:30 P. M., E. S. T. (See separate summary for Waterfowl and Coots). Traps may not be set before 7 A. M. on the first day of the season for trapping in open counties. Raccoons may be hunted at night.

UPLAND GAME (Small game possession limit three days' bag)	BAG LIMITS		SEASONS	
	Day	Season	Open	Close
Woodchucks (Groundhogs)	4	Unlimited	July 1	Sept. 30
Ruffed Grouse	2	10	Nov. 1	Nov. 21
Quail, Bobwhite	5	15	Nov. 1	Nov. 21
Hungarian Partridges (3 Counties)*	2	6	Nov. 1	Nov. 21
Wild Turkey (See below)*	1	1	Nov. 1	Nov. 30
Ringneck Pheasants, Males only	2	12	Nov. 1	Nov. 30
Grackles (commonly called Blackbirds)	Unlimited		Nov. 1	Nov. 30
Rabbits, Cottontails	4	20	Nov. 1	Nov. 30
Squirrels, Gray, Black, Fox (combined kinds)	6	20	Nov. 1	Nov. 30
Squirrels, Red	Unlimited		Nov. 1	Sept. 30, 1940
Raccoons, all counties by individual or hunting party	3	12	Nov. 1	Dec. 31
Raccoons, by traps (See counties closed below)*		12	Nov. 10	Jan. 30, 1940
Bear, over one year old by individual (see below)*	1	1	Nov. 15	Nov. 18
Bear, over one year old by hunting party of five or more*	2	2		
Deer, male with two or more points to one antler, except that last two days in 4 counties only antlerless deer may be hunted*	1	1	Dec. 1	Dec. 15
Deer, as above, by hunting party of 6 or more*	6	6		

NO OPEN SEASON—Reeves Pheasants, Chukar Partridges, Doves, Varying Hares (Snowshoe Rabbits), Elk and Cub Bears.

FUR-BEARERS—(Traps not to be placed before 7 A. M. on opening dates).

MIGRATORY GAME BIRDS	Daily Bag Limits	1939
		Open Seasons (Sundays Excepted)
Rails and Gallinules (except Sora and Coot) (combined kinds)	15	Sept. 1—Nov. 30
Sora	15	Sept. 1—Nov. 30
Woodcock (possession limit 8)	4	Oct. 1—Oct. 31
Wild Ducks (Except Wood Ducks)	*10	Oct. 22—Dec. 5
Wild Geese (combined kinds)	4	Oct. 22—Dec. 5
Snipe, Wilson's (Jacksnipe)	15	Oct. 22—Dec. 5
Coots (Mudhens)	25	Oct. 22—Dec. 5

NO OPEN SEASON—Ross's Geese, Wood Ducks and Swans.

SHOOTING HOURS (Standard Time) Ducks, Geese and Coots, 7 A. M. to 4 P. M.; Rails and Gallinules, 7 A. M. to 5 P. M., except in Tidal Marsh Areas 7 A. M. to Sunset; Woodcock and Snipe, 7 A. M. to 5 P. M.

EXCEPTION—No hunting of any kind before 9 A. M. November 1.

*Possession Limit, 20, but no more than 6 Canvasbacks, Redheads, Buffleheads and Ruddy Ducks combined.

Minks, Opossums, Skunks	Unlimited	Nov. 10	Jan. 31, 1940
Muskrats (by trapping only)	Unlimited	Dec. 1	Jan. 31, 1940
Otters (by traps only, in 4 counties)*	3	Dec. 1	Jan. 31, 1940
Beavers (by traps only, in 12 counties)* ...	3	Jan. 15	Jan. 31, 1940

* SPECIAL COUNTY REGULATIONS

HUNGARIAN PARTRIDGES—Hungarian Partridges may be killed only in the counties of Lycoming, Montour and Northumberland.

TURKEY—No Turkey season in Cameron, Elk, Forest, Jefferson, McKean, Potter, Sullivan and Warren Counties.

RACCOON TRAPPING—No Raccoon trapping in Berks, Bucks, Cambria, Carbon, Chester, Delaware, Lawrence, Mercer, Montgomery and Schuylkill Counties, except by certain landowners. The Raccoon season bag limit is 12 for hunting and trapping combined.

BEAR—No Bear season in Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin and Perry Counties.

† DEER—On December 14 and 15 only antlerless deer may be hunted for and killed in Forest and Warren Counties, that part of Potter County lying north of U. S. Highway 6, and that part of Jefferson County lying northwest of U. S. Highway 119, by persons who have not killed a deer or aided in killing the hunting party limit.

OTTER TRAPPING—Otter trapping only in Monroe, Pike, Susquehanna and Wayne Counties.

BEAVER TRAPPING—Beaver trapping only in Allegheny, Bradford, Clarion, Columbia, Crawford, Elk, Forest, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Schuylkill, Snyder, Susquehanna, Tioga, Union, Venango, Wayne and Warren Counties.

SNARES—Snare without springpoles may be used for taking predators only in Cameron, Clarion, Elk, Forest, McKean, Potter and Warren Counties between December 16 and March 31, 1940.

OBEY THE LAW » » » HELP YOUR PROTECTOR

Stop the cheater by reporting his license number! Automobile license numbers will help too!

The vast majority of Pennsylvania's hunters are real sportsmen, and observe the law. They can help themselves by reporting promptly those who violate. (Use the list below:)

DISTRICT GAME PROTECTORS

COUNTY		Phone
Adams	R. C. Anderson, 145 Buford Ave., Gettysburg	249
Allegheny	R. A. Liphart, 334 East Eleventh Ave., Homestead	1550
Armstrong	R. H. McKissick, Route 3, Kittanning	2082J
Beaver	J. Bradley McGregor, 1099 Turnpike St., Beaver	9095
Bedford	John S. Dittmar, Loysburg	7
Berks	Merton J. Golden, 5 Park Ave., Pennside, Reading	4-5850
Blair	C. C. Brennecke, 1520 Twenty-first Ave., Altoona	2-6974
Bradford	Rodman C. Case, 927 Main St., Towanda	337
Bucks	S. Earl Carpenter, 41 Taylor Ave., Doylestown	1168
Butler	Troy C. Burns, N. Main St., Butler	32-100
Cambria	Elmer B. Thompson, 396 Coleman Ave., Johnstown	3591
Cameron	Maxwell N. Ostrum, 321 Third St., Emporium	4482
Carbon	W. C. Achey, 311 First St., Weatherly	4741
Centre	Thomas A. Mosier, 120 N. Spring St., Bellefonte	38
Chester	Jarvis E. McCannon, 83 South Fifth Ave., Coatesville	191
Clarion	H. J. Updegraff, Shippenville	302R1
Clearfield	Frank E. Couse, 305 Cherry St., Clearfield	1354
Clinton	Miles L. Reeder, Route 1, Lock Haven	108
Columbia	M. L. Hagenbuch, 295 Penn St., Bloomsburg	692
Crawford	George W. Keppler, 255 Locust St., Meadville	1146
Cumberland	Joseph M. Foreman, 239 West South St., Carlisle	234J
Dauphin	Mark P. Motter, 4231 Elmerton Ave., Colonial Park	3-5153
Delaware	B. J. Davis, 436 East Baltimore Ave., Media	295
Elk	Edward L. Shields, Eschbach Road, St. Marys	5050
Erie	John G. Kennedy, 709 Walnut St., Erie	24-367
Fayette	Theodore T. Schafer, 16 Wilmington St., Uniontown	3794
Forest	Carl B. Benson, Tionesta	189
Franklin	W. W. Britton, 573 East Catherine St., Chambersburg	195
Fulton	Isaac Baumgardner, South Second St., McConnellsburg	22
Greene	John F. Blair, 465 East Greene St., Waynesburg	267
Huntingdon	Thomas F. Bell, 407 Sixteenth St., Huntingdon	158
Indiana	O. M. Pinkerton, 21 South Twelfth St., Indiana	1934
Jefferson	Lester J. Haney, Brookville	707W
Juniata	Herman W. Fisher, 611 Washington Ave., Mifflintown	176
Lackawanna	Francis E. Jenkins, Layton Road, Chinchilla	367R2
Lancaster	J. M. Haverstick, 741 College Ave., Lancaster	5540
Lawrence	Frank L. Coen, Route 5, New Castle	5211
Lebanon	Philip H. Melching, 409 Gannon St., Lebanon	681
Lehigh	William A. Moyer, 25 North Eighteenth St., Allentown	2-6739
Luzerne	Philip S. Sloan, 75 East Bennett St., Kingston	7-5382
Lycoming	Frank F. Crosby, 1442 Memorial Ave., Williamsport	2-7313
McKean	William J. Carpenter, Mt. Jewett	65
Mercer	George L. Norris, 434 Greenville Ave., Mercer	6
Mifflin	Ralph E. McCoy, 317 Logan St., Lewistown	2916
Monroe	Arthur N. Frantz, 75 Elk St., East Stroudsburg	1272
Montgomery	Ambrose Gerhart, 141 Central Ave., Souderton	873
Montour	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Northampton	Morris D. Stewart, 1535 Northampton St., Easton	2-2023
Northumberland	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Perry	Hugh H. Groninger, New Bloomfield	80
Philadelphia	E. W. Stucke, 7806 Verree Ave., Philadelphia	Phone—Pilgrim 4813
Pike	John H. Lohmann, 111 Catherine St., Milford	240
Potter	Arthur G. Logue, Coudersport	278
Schuylkill	Leo E. Bushman, 76 Pottsville St., Cressona	370
Snyder	Clarence F. Walker, Beavertown	Phone—Beaver Springs 16R31
Somerset	John Spencer, 354 West Garrett St., Somerset	139
Sullivan	Robert Latimer, Muncy Valley	Phone—Strawbridge 15R2
Susquehanna	William D. Denton, New Milford	Phone—Jackson 16
Tioga	L. H. Wood, 3 Eberenz St., Wellsboro	196R
Union	Fred S. Fisher, 400 Green St., Mifflinburg	6257
Venango	William T. Campbell, 523 Liberty St., Franklin	1107
Warren	Lawrence E. Linder, 105 Monroe St., Warren	1689
Washington	Carl C. Stainbrook, 52 Harrison St., Washington	566
Wayne	Maynard R. Miller, 30 Stanton St., Honesdale	676
Westmoreland	R. D. Reed, 1610 Ligonier St., Latrobe	1140W
Wyoming	Ralph E. Flaugh, 105½ Warren St., Tunkhannock	3671
York	A. C. Ganster, 520 Girard Ave., York	7434

Space does not permit listing the Game Protectors on special assignment, those in charge of Land Management, and the large corps of Deputy Game Protectors.

AVOID ACCIDENTS!



**DON'T PUSH THE SAFETY
OFF UNTIL ACTUALLY
READY TO FIRE**



**Carrying any gun with the hammer in
the up position is sure to cause trouble**

PLAY SAFE!

PENNSYLVANIA GAME NEWS



December 1939

Ten Cents

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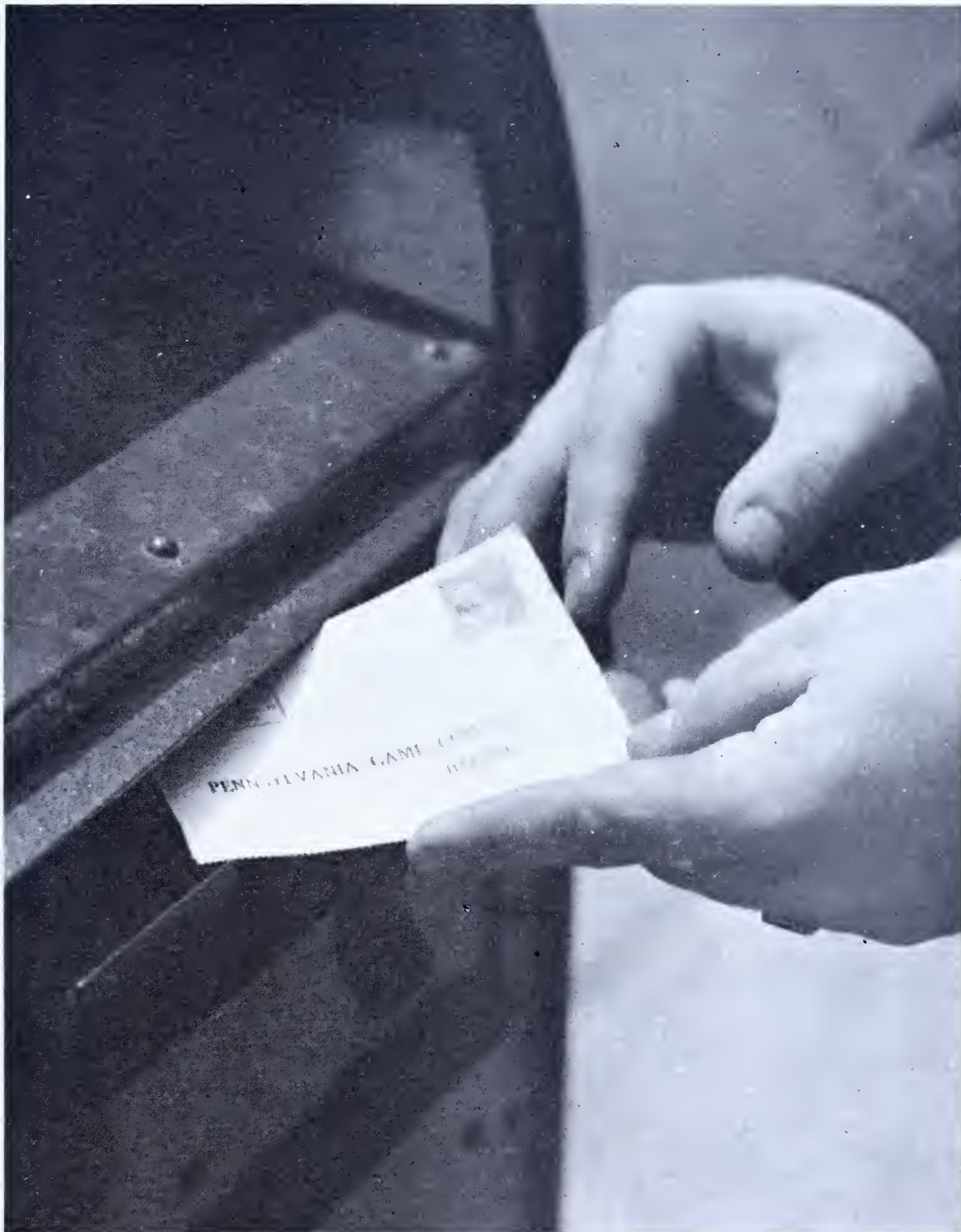
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THE GAME NEWS

By G. Norman Wilkinson

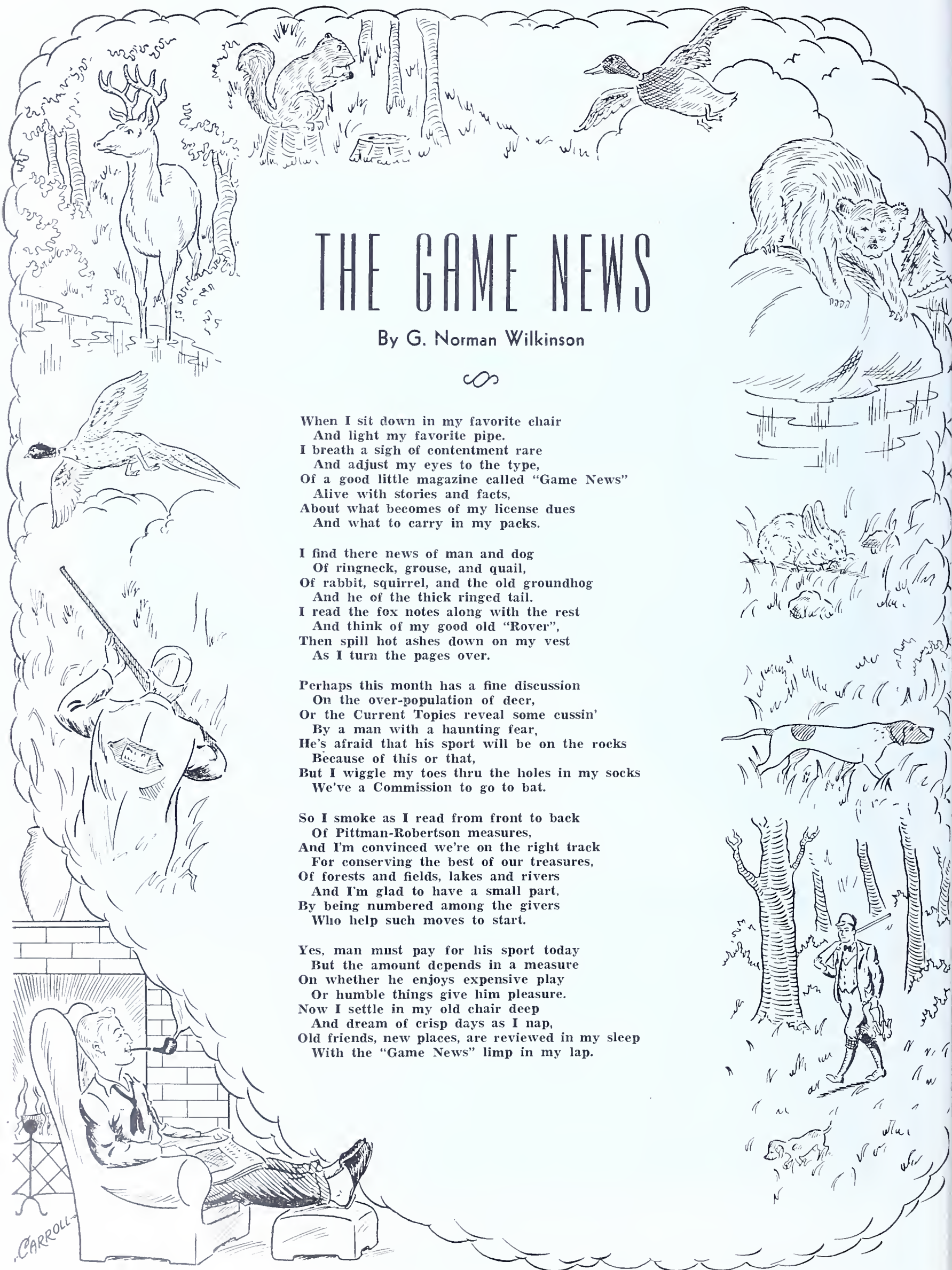
When I sit down in my favorite chair
And light my favorite pipe.
I breath a sigh of contentment rare
And adjust my eyes to the type,
Of a good little magazine called "Game News"
Alive with stories and facts,
About what becomes of my license dues
And what to carry in my packs.

I find there news of man and dog
Of ringneck, grouse, and quail,
Of rabbit, squirrel, and the old groundhog
And he of the thick ringed tail.
I read the fox notes along with the rest
And think of my good old "Rover",
Then spill hot ashes down on my vest
As I turn the pages over.

Perhaps this month has a fine discussion
On the over-population of deer,
Or the Current Topics reveal some cussin'
By a man with a haunting fear,
He's afraid that his sport will be on the rocks
Because of this or that,
But I wiggle my toes thru the holes in my socks
We've a Commission to go to bat.

So I smoke as I read from front to back
Of Pittman-Robertson measures,
And I'm convinced we're on the right track
For conserving the best of our treasures,
Of forests and fields, lakes and rivers
And I'm glad to have a small part,
By being numbered among the givers
Who help such moves to start.

Yes, man must pay for his sport today
But the amount depends in a measure
On whether he enjoys expensive play
Or humble things give him pleasure.
Now I settle in my old chair deep
And dream of crisp days as I nap,
Old friends, new places, are reviewed in my sleep
With the "Game News" limp in my lap.



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Cover by Joseph Wolf



MERRY XMAS AND A HAPPY NEW YEAR

Forward March!

WITH Christmas just a short time ahead and the beginning of a New Year in the offing, the Game News takes this opportunity to remind all sportsmen's associations and individuals of their obligation to themselves and to the wildlife of the Commonwealth during the next twelve months.

The Commission's program for the restoration of wildlife and the management of its habitat during the past year, together with the splendid cooperation rendered by sportsmen, landowners and all others interested in conservation produced results of which all those who contributed should be justly proud.

But we cannot afford to rest on our laurels. Those of us who are interested in the perpetuation of wildlife and the sport it affords cannot measure our success on the achievements of only one year. We must plan and work for many years ahead, therefore we must keep our shoulders to the wheel and continue marching forward if we are to continue to enjoy the wholesome recreation hunting provides.

For instance, now that the hunting season is over the Commission will be, and all sportsmen should be, interested in knowing just how much game was taken during the past season. This data helps the Commission more intelligently to plan its various future programs. It behooves every hunter, therefore, to submit his game-kill report promptly, thereby saving the Commission and himself time, money, trouble, and possibly subsequent embarrassment.

There is much to be done. The Game Commission has underway long-term programs which merit the earnest support of every sportsmen's association and every individual hunter in the Commonwealth. Sportsmen's organizations likewise have their own local wildlife conservation projects which deserve the cooperation and support of all their members.

Every club and every sportsman should be interested in the welfare of our breeding stock during the winter, and should individually and collectively see to it that the wildlife of their community is well fed and otherwise cared for when old Jack Frost lays his mantle of white over the fields and woodlands. More than one covey of quail has been brought through severe winters because someone had the foresight, the ambition and the interest to see that an ample food supply was placed for them when it was needed most. Many of these birds can be trapped under permit and held over the winter.

Only a true sportsman takes such a personal interest in the all-year welfare of the creatures of the wild. Let us not find ourselves in the group of those who feel that their obligations ceased with the purchase of their hunting license. To the contrary let us help swell the ranks of those who realize their responsibilities. If it were not for their painstaking efforts there would be no sport for the many.

Don't hang your guns up after the season is over and forget all about wildlife until another year has rolled around. Do something directly or indirectly for wildlife from now on until next season. If you are not a member of a sportsmen's club join one now and participate in its many programs. The winter months provide an excellent opportunity to sponsor educational programs of one sort or another, particularly in the schools. Indoor meetings can be utilized to instruct members, old and young, in target practice, how to handle firearms safely, first aid, etc. Educational committees of sportsmen's associations should see to it that the literature, posters, etc., prepared by the Commission are distributed in the schools.

The coming months also offer an opportune time for sportsmen's organizations to contact their farmer friends in an effort to further the Commission's new Special Wildlife Refuge Program. This program has tremendous possibilities for opening up more game territory and for encouraging landowners to aid wildlife on their lands. When a sportsman starts talking to a farmer about soil erosion, upgrown fence rows, the economic value of songbirds and game, how to protect his woodlots from over-grazing, etc., that landowner begins to open his eyes and realize that this business of conservation and hunting is after all a lot more than so much game in the bag. The sportsmen of the Commonwealth can sell any worthy program, but you can't help much sitting beside the fireplace reminiscing. Get busy NOW! Map out a twelve-month program for next year, and do your best to carry it through successfully. The Commission is pleased to pledge its utmost cooperation at all times.

Let's all join in making 1940 the biggest and best year ever. **FORWARD, MARCH!**

The Farmer as A Conservationist

by

Aldo Leopold

Drawings by
B. C. Jorns

CAN a farmer afford to devote land to woods, marsh, pond, wind-breaks? These are semi-economic land uses,—that is, they have utility but they also yield non-economic benefits.

Can a farmer afford to devote land to fencerows for the birds, to snag-trees for the coons and flying squirrels? Here the utility shrinks to what the chemist calls "a trace."

Can a farmer afford to devote land to fencerows for a patch of ladyslippers, a remnant of prairie, or just scenery? Here the utility shrinks to zero.

Yet conservation is any or all of these things.

Many labored arguments are in print proving that conservation pays economic dividends. I can add nothing to these arguments. It seems to me, though, that something has gone unsaid. It seems to me that the pattern of the rural landscape, like the configuration of our own bodies, has in it (or should have in it) a certain wholeness. No one censures a man who loses his leg in an accident, or who was born with only four fingers, but we should look askance at a man who amputated a natural part on the grounds that some other is more profitable. The comparison is exaggerated; we had to amputate many marshes, ponds and woods to make the land habitable, but to remove any natural feature from representation in the rural landscape seems to me a defacement which the calm verdict of history will not approve, either as good conservation, good taste, or good farming.

If this were Germany, or Denmark, with many people and little land, it might be idle to dream about land-use luxuries for every farm family that needs them. But we have excess plowland; our conviction of this is so unanimous that we spend a billion out of the public chest to retire the surplus from cultivation. In the face of such an excess, can any reasonable man claim that economics prevents us from getting a life, as well as a livelihood, from our acres?

Sometimes, I think that ideas, like men, can become dictators. We Americans have so far escaped regimentation by our rulers, but have we escaped regimentation by our own ideas? I doubt if there exists today a more complete regimentation of the human mind than that accomplished by our self-imposed doctrine of ruthless utilitarianism. The saving grace of democracy is that we fastened this yoke on our own necks, and we can cast it off when we want to, without severing the neck. Conservation is perhaps one of the many squirmings which foreshadow this act of self-liberation.

One of the self-imposed yokes we are casting off is the false idea that farm life is dull. What is the meaning of John Steuart Curry, Grant Wood, Thomas Benton? They are showing us drama in the red barn, the stark silo, the team heaving over the hill, the country store, black against the sunset. There is also drama in every bush, if we can see it. When enough men know this, we need fear no indifference to the welfare of bushes, or birds, or soil, or trees. We shall then have no need of the word conservation, for we shall have the thing itself.

The landscape of any farm is the owner's portrait of himself.

Conservation implies self-expression in that landscape, rather than blind compliance with economic dogma. What kind of self-expression will one day be possible in the landscape of a cornbelt farm? What will conservation look like when transplanted from the convention hall to the fields and woods?



The pattern of the rural landscape, says the author, should have a certain wholeness in order to prove that conservation pays certain dividends. . . .

Begin with the creek: it will be unstraightened. The future farmer would no more mutilate his creek than his own face. If he has inherited a straightened creek, it will be "explained" to visitors, like a pock-mark or a wooden leg.

The creek banks are wooded and ungrazed. In the woods, young straight trees predominate, but there is also a sprinkling of hollow-limbed veterans left for the owls and squirrels, and of down logs left for the coons and fur-bearers. On the edge of the woods are a few wide-spreading hickories and walnuts for nutting. Many things are expected of this creek and its woods: cordwood, posts, and saw-logs; flood-control, fishing and swimming; nuts and wildflowers; fur and feather. Should it fail to yield an owl-hoot or a mess of quail on demand, or a bunch of sweet william or a coon-hunt in season, the matter will be cause for injured pride and family scrutiny, like a check marked "no funds."

Visitors when taken to the woods often ask, "Don't the owls eat your chickens?" Our farmer knows this is coming. For answer, he walks over to a leafy white oak and picks up one of the pellets dropped by the roosting owls. He shows the visitor how to tear apart the matted felt of mouse and rabbit fur, how to find inside the whitened skulls and teeth of the bird's prey. "See any chickens?" he asks. Then he explains that his owls are valuable to him, not only for killing mice, but for excluding other owls which **might** eat chickens. His owls get a few quail and many rabbits, but these, he thinks, can be spared.

The fields and pastures of this farm, like its sons and daughters, are a mixture of wild and tame attributes, all built on a foundation of good health. The health of the fields is their fertility. On the parlor wall, where the embroidered "God Bless Our Home" used to hang in exploitation days, hangs a chart of the farm's soil analyses. The farmer is proud that all his soil graphs point upward, that he has no check dams or terraces, and needs none. He speaks sympathetically of his neighbor who has the misfortune of harboring a gully, and who was forced to call in the CCC. The neighbor's check dams are a regrettable badge of awkward conduct, like a crutch.



Land must be devoted to woods, marsh, pond, prairie or just scenery to meet economic or semi-economic needs and make the picture complete.

Separating the fields are fencerows which represent a happy balance between gain in wildlife and loss in plowland. The fencerows are not cleaned yearly, neither are they allowed to grow indefinitely. In addition to bird song and scenery, quail and pheasants, they yield prairie flowers, wild grapes, raspberries, plums, hazelnuts, and here and there a hickory beyond the reach of the woodlot squirrels. It is a point of pride to use electric fences only for temporary enclosures.

Around the farmstead are historic oaks which are cherished with both pride and skill. That the June beetles once got one is remembered as a slip in pasture management,—not to be repeated. The farmer has opinions about the age of his oaks, and their relation to local history. It is a matter of neighborhood debate whose oaks are most clearly relics of oak-opening days, whether the healed scar on the base of one tree is the result of a prairie fire or a pioneer's trash pile.

Martin house and feeding station, wildflower bed and old orchard go with the farmstead as a matter of course. The old orchard yields some apples but mostly birds. The bird list for the farm is 161 species. One neighbor claims 165, but there is reason to suspect he is fudging. He drained his pond; how could he possibly have 165?

His pond is our farmer's special badge of distinction. Stock is allowed to water at one end only; the rest of the shore is fenced off for the duck, rails, redwings, gallinules, and muskrats. Last spring, by judicious baiting and decoys, two hundred ducks were induced to rest there a full month. In August, yellow-legs use the bare mud of the water-gap. In September the pond yields an armful of waterlilies. In the winter there is skating for the youngsters, and a neat dozen of rat-pelts for the boys' pin-money. The farmer remembers a contractor who once tried to talk drainage. Pondless farms, he says, were the fashion in those days; even the Agricultural College fell for the idea of making land by wasting water. But in the drouths of the thirties, when the wells went dry, everybody learned that water, like roads and schools is community property. You can't hurry water down the creek without hurting the creek, the neighbors, and yourself.

The roadside fronting the farm is regarded as a refuge for the prairie flora; the educational museum where the soils and plants of pre-settlement days are preserved. When the professors from the college want a sample of virgin prairie soil, they know they can get it here. To keep this roadside in prairie, it is cleaned annually, always by burning, never by mowing or cutting. The farmer tells a funny story of a highway engineer who once started to grade the cutbanks all the way back to the fence. It developed that the poor engineer, despite his college education, had never learned the difference between a silphium and a sunflower. He knew his sines and cosines, but he had never heard of the plant succession. He couldn't understand that to tear out all of the prairie sod would convert the whole roadside into an eyesore of quack and thistle.

In the clover field fronting the road is a huge glacial erratic of pink granite. Every year, when the geology teacher brings her class out to look at it, our farmer tells how once, on a vacation trip, he matched a chip of the boulder to its parent ledge, two hundred miles to the north. This starts him on a little oration on glaciers; how the ice gave him not only the rock, but also the pond, and the gravel pit where the kingfisher and the bank swallows nest. He tells how a powder salesman once asked for permission to blow up the old rock "as a demonstration in modern methods." He does not have to explain his little joke to the children.

He is a reminiscent fellow,, this farmer. Get him wound up and you will hear many a curious tidbit of rural history. He will tell you of the mad decade when they taught economics in the local kindergarten, but the college president couldn't tell a bluebird from a blue cohosh. Everybody worried about getting his share; nobody worried about doing his bit. One farm washed down the river, to be dredged out of the Mississippi at another farmer's expense. Tame crops were over-produced, but nobody had room for wild crops. "It's a wonder this farm came out of it without a concrete creek and a Chinese elm on the lawn." This is his whimsical way of describing the early fumbblings for "conservation."

Reprinted from June "American Forests" as condensed from "Conservation" July-August.

Nesting Habits and Causes of Nest Mortality of the Ringneck Pheasant^{*}

By Pierce E. Randall^{**}

A major problem in the management study of the ringneck pheasant (*Phasianus colchicus torquatus*) in Pennsylvania is the determination and evaluation of the causes of pheasant mortality. Since the pheasant is a ground-nesting bird and its nest is thus exposed to many hazards, it was recognized that a large mortality of potential birds might occur during this phase of the pheasant's life history. In order to determine if such a condition did exist, a careful study of the nesting habits of this species was carried on during the spring and summer of 1939.

Much of the work in the pheasant management study has been conducted on the 1,675-acre study tract in Lower Macungie Township, Lehigh County. This area is considered typical of much of the first-class pheasant range. It is situated on some of the finest agricultural land in the Commonwealth. Principal crops include, corn, wheat, potatoes, barley, clover, and alfalfa. One-half of the study tract contains extensive fencerows and some waste areas.

During the course of the present study, complete observations were obtained on 310 pheasant nests. Farmers and other co-operators reported the presence of 35 nests; the remaining 275 were located by the writer by means of direct search. Of the nests studied, 181 were located on the pheasant study area, and the remainder were scattered in other parts of Lehigh and Northampton Counties.

In this study notes were taken on the number of eggs, date of establishment of nests, date of hatch, number of eggs hatching, infertile eggs, type of cover and nesting material, distance to edge of field or cover type, and ultimate success or course of destruction of each nest. This paper presents a summary of the findings of this study.

This research was carried on under the supervision of Dr. Logan J. Bennett, Biologist, U. S. Bureau of Biological Survey, and Dr. P. F. English, Associate Professor of Zoology, The Pennsylvania State College. The writer wishes to acknowledge the aid and helpful suggestions given during the course of this study by Mr. William A. Moyer, District Game Protector of Lehigh County.

All the nests under observation were situated on or within a few inches of the ground level. Nests were frequently placed in shallow depressions—2 or 3 inches deep—that had been scooped out of the earth or in natural hollows. Nests were lined with dried grasses or leaves, stalks of herbaceous plants, fine twigs, or corn husks. A few feathers from

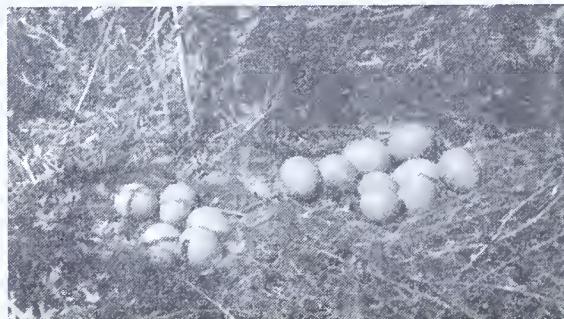


FIGURE 1.—Two active pheasant nests only 6 inches apart.

the hen pheasant were sometimes found in the nest.

The number of eggs in a clutch varied from 4 to 23. The average was 10.8 eggs. The clutches became smaller as the season advanced (table 1). This indicated the importance of the success of the early clutches, as more young were produced in these early clutches than in later re-nesting attempts. Two factors probably contributed to the progressive decline in the size of clutches. First, more than one hen often laid in a nest early in the season when suitable nesting cover was scarce. Second, later nests included many re-nesting attempts by hens whose first nests were failures. Re-nesting attempts usually contained fewer eggs than did first clutches.

Forty-four hatched clutches upon which complete information could be obtained, indicated that 94.1 percent of the eggs were fertile. As 4.1 percent of the chicks failed to get out of the shell, 90 percent of the eggs actually hatched. In only one nest were more than two eggs of a clutch found to be infertile. Nest No. 266, in which the first egg was deposited July 2, was made up of two fertile and seven infertile eggs. The two good eggs hatched August 5.

The sex ratio on the study area during the nesting season was about six hens to each



FIGURE 2.—After this nest was exposed by mowing, the hen returned and incubated for 2 weeks.

cock bird. In view of this unbalanced ratio between the sexes, the high fertility of the eggs was of paramount interest. This seemed to indicate that 6 to 1 was not too great a divergence between the sexes.

The nesting season extended from early April until late August. The records indicated that the largest number of nests was established during late May. It appeared that nests established in May had the best chance of hatching successfully. April nests fared rather poorly, although they were more successful than those established after June 15. Of the nests established after June 15, only 2 of 28 nests succeeded.

TABLE 1.—Progressive decline in size of clutches

Date Laying 1st egg	Number Clutches	Average Number Eggs in Clutch
First half of April.....	6	15.0
Last half of April.....	19	14.2
First half of May.....	37	11.6
Last half of May.....	48	9.6
First half of June....	17	9.4
Last half of June....	8	8.0
First half of July.....	6	7.7
Total	141	Average 10.8

In early spring the only cover available for nesting purposes was from the growth of the previous year and consisted largely of the old stalks of plants. Grasses, sedges, and the stalks of lesser ragweed, greater ragweed, sweet clover, goldenrod, chicory, and aster were often used for nesting cover at this season of the year.

In May the vegetation began to grow rapidly and soon supplied abundant nesting cover. Alfalfa, clover, small grains, pastures, and grassy waste areas, all became available for nesting. During April nests had usually been built in fencerows, wasteland, woods, evergreen plantations, and along roadsides. In May most of the nesting sites were in alfalfa, clover, small grains, and wasteland. During early May pastures were used, but no nests were established in them after mid-May, probably because of grazing. Hayfields containing alfalfa or clover were the cover type used most often for nesting; more than half of the nests reported in the present study were in this cover type. (See column 1, table 2.) In early July nests were established in potato fields and, apparently, were often re-nesting attempts.

There has been much disagreement in the past as to whether or not pheasants tend to place a majority of their nests close to the edges of blocks of cover. Considerable information was secured on this subject during the present study. Briefly, it may be stated that when pheasants were not very numerous most of the nests were near the edges; but as the pheasant populations increased, more of the nests were out in the fields, away from the peripheries. Other factors affecting

^{*} Paper No. 8 from the Pennsylvania Cooperative Wildlife Research Unit. The Pennsylvania State College and the Pennsylvania Game Commission, co-operating with the U. S. Bureau of Biological Survey. Authorized for publication on October 25, 1939 as Paper No. 927 in the journal series of the Pennsylvania Agricultural Experiment Station.

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The Pennsylvania State College.

the location of nests included the number of cock birds and the availability and location of crowing areas.

TABLE 2.—Success of nesting attempts

Cover Type	Number Nests	Number Successful	Percent Successful
Roadside	22	2	9.1
Fencerow	16	1	6.3
Wasteland	35	9	25.7
Hayfields	182	35	19.2
Small grains...	37	11	29.7
Pasture	6	3	50.0
Potatoes	2	1	50.0
Plantations	4	1	25.0
Orchards	2	0	0.0
Brush	2	0	0.0
Woods	1	0	0.0
Grain stubble..	1	0	0.0
Totals	310	63	Average 20.3

During the breeding season cock pheasant selected an area which he defended for himself and his hens against the intrusions of all other male pheasants. Wight (1930) called these territories "crowing areas." Preferred crowing areas apparently included dense



Photo by P. F. English.
FIGURE 3.—Nest and eggs of hen pheasant after being cut over by mower.

cover of some type such as fencerows, wasteland, or woods. Sometimes crowing territories were established in alfalfa or wheat-fields and at a good distance from the edge. Under these circumstances nests were usually placed far from the borders of the field.

Bennett (1938), in his study of the Blue-winged Teal (*Querquedula discors*), found that these birds would not tolerate a nesting density in excess of 1 nest to an acre. If such a phenomenon existed in pheasants, knowledge of it would be of considerable importance in shaping pheasant management policies. For this reason, careful notes were kept on pheasant nesting densities.

The number of nests in an acre varied greatly from field to field, but in several 10-to-30-acre alfalfa and clover fields it was found to be approximately 1 nest to an acre. Smaller fields sometimes sheltered more than 1 nest to an acre. A 3-acre field of mixed clover and alfalfa contained 9 nests or 1 nest to 0.33 acre.

It was difficult to determine how great a nesting density pheasants would tolerate. On June 5, 10 nests were discovered on a measured acre in a 30-acre alfalfa field. Two of these nests were situated side-by-side, about 6 inches apart (figure 1). The hens were flushed from the nests at the time of their discovery. When found, both nests had been incubated at least 10 days. On two other occasions nests were observed side-by-side, less than a foot apart.

Of the 310 nests under observation in this study, 63, or 20.3 percent, were successful (table 2). In other words, less than 1 nest in 4 produced young. Nesting studies in other regions confirm the high mortality among pheasant nests. Only 23.1 percent of a 445-nest sample examined by Hamerstrom (1936) during a 3-year study in Iowa were successful. English (1933) reported that 34.8 percent of the nests studied by him in Michigan hatched.

TABLE 3.—Success of hayfield nests by 5-day intervals

Date of Mowing	Total Nests	Number Hatched	Percent Hatched
June 1-5	33	3	9.1
June 6-10	38	4	10.5
June 11-15	20	2	10.0
June 16-20	10	1	10.0
June 21-25	30	9	30.0
June 26-30	27	10	37.0

TABLE 4.—Causes of nest failures

Cause of Failure	Number	Percent of Losses	Percent All Nests
Man			
Mowing	123	49.8	39.7
Harvesting	9	3.6	2.9
Cutting weeds..	5	2.0	1.6
Miscellaneous..	3	1.2	0.9
Predators			
Crow	16	6.5	5.2
Grackle	2	0.8	0.6
Bluejay	1	0.4	0.3
Dog	5	2.0	1.6
Cat	1	0.4	0.3
Skunk	29	11.7	9.4
Weasel	3	1.2	1.0
Fox	1	0.4	0.3
Squirrel	1	0.4	0.3
Snake	3	1.2	1.0
Rat	1	0.4	0.3
Unknown	13	5.3	4.2
Pheasants			
Abandoned	13	5.3	4.2
Dump nest.....	2	0.8	0.6
Observer	3	1.2	1.0
Flooding	4	1.6	1.3
Unexplained	9	3.6	2.9
Total	247	99.7	79.6
Hatched	63	---	20.3
Grand Total	310	---	99.9

Half of the nests found in pastures and potato fields succeeded, but the samples were too small to warrant any conclusions. In all cover types in which a sufficient number of nests were obtained, the successful nests numbered less than 30 percent of the total nests in the type. Most surprising of all was the poor showing made by fencerow nests. Fencerows were travel lanes for predators, and nests situated along them were more apt to be discovered and destroyed by egg-eating animals.

The writer believes that the total figures give too pessimistic a view of hayfield nesting and that the nests from the pheasant study tract present a truer picture of the situation. Of the 92 nests observed in the hayfields of the study area, 25, or 27.2 percent, were successful. Two of these nests were hatched by birds that returned to their nests and completed incubation in the open after exposure of the nests by mowing (figure 2).

The success or failure of hayfield nesting attempts depended largely upon whether the



FIGURE 4.—A well-concealed nest in winter barley.

hay was cut early or late in the season. When alfalfa or clover was harvested in early June, few nests in the hay had had time enough to hatch. By late June or early July a much larger number of nests had hatched. Even in July some nests were destroyed by mowing, as the hayfields contained re-nesting efforts by hens whose first nests were failures. During the past nesting season a large number of nests located in the hay hatched about June 20. Table 3 brings out the "critical" time in hayfield nesting.

In evaluating causes of nest destruction, no assignment of a nest to a definite category was made unless the evidence was conclusive. When the cause of destruction was doubtful, it was listed as unexplained. Losses were always charged to the primary agency. For example, if crows ate the eggs from a nest which had been exposed by mowing, the failure was charged to the mowing operation.

Man's activities destroyed more nests than all other agencies combined. Forty-five percent of all nests failed as a result of interference by man (table 4). This was 56.6 percent of the nesting losses.

Mowing caused the failure of 39.7 percent of all the nests. On the study area about 8 percent of the incubating hens were killed and 15 percent were injured by the mowing-machines (see figure 3). Tractor mowers killed or maimed many more birds than did the horse-drawn machines. Flushing bars reduced considerably the injuries to hens, although the bars now in use on tractor mowers need much improvement. Owing to the high speed at which tractors travel, there is not enough space between the flushing bar and the cutter bar for the incubating bird to have time to leave the nest. To be useful on present-day tractors, a flushing bar would

(Continued on Page 30)



FIGURE 5.—Pheasant nest destroyed by skunks.

A LESSON IN CONSERVATION

By CHARLES NEHF

AMONG the present social trends which are gradually evolving themselves from an older economic conception is the attitude of the American citizen towards the use of natural resources. From the period of free exploitation which predominated the early expansion of the United States we have come a long way until today public opinion is slowly formulating newer ideas as to how our natural resources should be used.

There can be no doubt that America is at the crossroads of its responsibility towards the administration of policies effecting the use of our basic resources. This idea, not necessarily a governmental function, is permeating into all phases of public and private enterprise.

Considering such a trend one may ask themselves the question, "What may the public schools of America do to help this movement of conservation work?" To safely answer such a question we would have to itemize all our resources and plan an attack on each particular phase, again dividing the issue as it effects different localities over the Union.

The account to follow would naturally be a small unit in the vast field of practical conservation work but it exemplifies a supervisory project as carried on by the Allentown Public Schools in the spring of 1939. A previous account of the earlier work was published in the January, 1938, issue of the Pennsylvania Game News.

Selecting a Project

After carefully surveying all the possible fields in which the pupils of the Harrison-Morton Junior High School could carry out practical conservation ideals it was finally decided to clean a public dump located along the lower Jordan creek, between Turner and Hamilton Streets, in the city of Allentown.

In selecting the project for cleaning the public dump, full consideration was made of all other suggestions. The needs of each were summarized and weighed. Final decision on cleaning the dump was based upon the following facts:

1. Presence of an unnecessary dump in a residential section.
2. Unhealthy surroundings for residents.
 - a. Continuous smoke from dump fires.
 - b. Odors.
 - c. Rodents.
 - d. Flies.
 - e. Potential disease incubator.
 - f. Mosquitoes breeding in water filled cans.
3. Linking the school subjects of Science and Civics with practical field work.
4. The school was less than two city blocks from the dump and the boys could be moved to and from the place of field work with the least amount of difficulty.
5. A strong public opinion among the citizens of Allentown that sections such as the school had selected for cleaning were

Allentown schools have been interested for a number of years in civic projects which, if carried out successfully, may contribute to the civic education of the young people in the schools. Among these are the following: the Junior Red Cross, the Community Chest, and excursions to governmental and social agencies at work at home and in communities extending from our own suburban villages as far as New York and New England.

However, the most startlingly effective project which has come to our notice is the one carried on by the boys in the various civic clubs and organizations of Harrison-Morton Junior High School in cleaning the unsightly and unsanitary dump along the Jordan Creek opposite the school. While the project has not been completed, it has been begun and carried forward with such enthusiasm and with such respect from the community, that it is certain to be finished and reasonably certain to be respected by the citizenry which, in the past, has desecrated this area.

Charles H. Nehf, who writes the following account of the project, is one of the teachers of Harrison-Morton Junior High School who participated in setting up and carrying out the project.

WM. L. CONNOR, Sup't of Schools.

a hindrance to the civic pride of the town.

Immediately following the survey needs for the cleaning of the city dump, the objectives of the school work were formulated. The ideals to be accomplished were enumerated as:

1. To develop a spirit of civic pride among the students of the Harrison-Morton Junior High School.
2. Appreciation of public property.

3. To remove a conspicuous eye sore along a main railroad entrance to the city of Allentown.

Preliminary Planning

A Conservation Club consisting of 106 boys in the Eighth and Ninth grades of the school were a permanent asset since it supplied the major portion of the pupils assisting in the actual work. Before anything could be accomplished it was necessary to prepare plans for the final cleaning of the dump. As progress was made, the Nature Club and other interested boys were given permission from Clifford S. Bartholomew, principal of the school, to assist us in our work.

The very first step in the preliminary work of planning was to call a conference between the principal of the school, officials of the City Bureau of Health, and the advisors in the Conservation and Nature Clubs. Details of the work were discussed and definite responsibilities were assigned to each group. Equipment such as trucks, picks, shovels, baskets to carry tin cans and trash to the top of the bank, and first aid supplies were to be furnished by Dr. Joseph R. Bierman, city health officer. Boys to carry on the ideal were to be permitted club leave from the school when cleaning was to be done on the Jordan creek.

Most encouraging support to the movement was evidenced through the fine support of Civic and Sportsmen's clubs in the city. To the Morning Call and the Evening Chronicle, Allentown's leading newspapers, special mention is made for their cooperative spirit of the press, both in the editorial section and news items.

With the basic plans completed, the next step was to ask the cooperation of the pupils in the school. This, as in all other steps, was organized to bring the greatest possible re-



When the "gang" arrived on the stream bank they found stacks of empty bushel baskets and hemp sacks which they filled with tin cans and other debris.

sults. Pupil interest was created by club discussions on the following subjects:

1. Group Health.
2. Civic Responsibility.
3. City Sanitation.
4. Preserve our Natural Resources.
5. City Planning.

The success of the ground work can be safely estimated by the fact that when volunteers were called over 100 boys in the Conservation and Nature clubs of the school responded. Their total enrollment was 126 of which a fair group had to be excused because of carrying papers after school as well as others who had definite home responsibilities.

History of the Dump

For many years residents of the city had used the west bank of the Jordan creek as it flows through Allentown between Turner and Hamilton Streets for an ash dump. During the earliest days of settlement the section which has now been filled was a meadow at the head of which sprung a nice flowing spring. The water, heavy in limestone, was a fertile bed for water cress which grew there in such profusion that unless the residents removed the cress from the spring the channel leading to the Jordan creek became stocked.

When the era for grazing cattle in the meadow passed, the land adjoining the Jordan was filled with ashes, rubbish and covered with ground. Two city blocks of homes were constructed, coal yards and building supply business erected, and the remaining land used for recreational purposes.

In spite of the many improvements, dumping of ashes and rubbish continued along the higher ground exposed to the stream. In 1932, under the PWA, this section of the stream and its banks were cleaned and leveled off. Laxity in enforcing city health regulations after the project had been completed brought about the same conditions as before.

Another appalling incident concerning the dump is that it is located directly opposite to one of the main railroad passenger entrances to the city of Allentown. Visitors from the outside along with those from the city itself can not help but see a disgusting

'eye sore' as they move to and from Allentown.

Sportsmen were also greatly concerned with the disgusting situation since they have listed the Jordan creek, approximately one mile above, as a good trout stream stocked annually by the Pennsylvania Fish Commission. Their ideal, a movement sponsored by the Pioneer Fish and Game Protective Association, Allentown, who are interested in restoring the Jordan creek, is to extend the condition of the water so that trout may be stocked over the entire lower stretch of the creek.

Cleaning the Dump

After the volunteers were called, the first venture was limited to 100 boys in the Junior High School. In place of their regular club period in school the boys were dismissed and permitted to spend that same time in clearing the dump. With the regular club period falling during the last class period of the day, the students worked a 55 minute period and were excused at the regular school time.

When the 'gang,' for such they may be properly called, arrived on the stream bank they found stacks of empty bushel baskets and hemp sacks. The tin cans and unnecessary rubbish were picked up and placed into the baskets and sacks, carried up the bank, and dumped either on a large heap or a waiting truck. During the first day of work the boys carted enough trash up over the bank to fill eleven large Mack dump trucks as used by the highway department for the city of Allentown.

Each successive club period extended the work until by the end of the 1938-39 school year the boys had cleared about 175 feet of the former dump. Besides cleaning the bank the city and residents in the neighborhood had hauled ground fill to the top of the bank. During the last day of work the boys, with the aid of picks, shovels and rakes covered the ashes with good ground and leveled the stream bank.

While groups of boys were working on the bank, others were engaged in removing the refuse from the stream channel of the Jordan. Each flood or high water would wash the trash into the stream and there it would remain either to wash down the creek or deteriorate. A channel from a surface

sewer outlet was dug so that the water could flow into the Jordan and not remain stagnant.

Stones from the bed of the stream were gathered and small dams erected on the principle similar to stream improvement work carried out on other trout streams. The entire work program was conducted by the boys while the equipment was furnished by officials in the city government.

"Why Not a WPA Project?"

At one point in our work the question was raised by a bystander as to why we did not ask the WPA to repeat their former work. Long before this was really asked the club advisors had thought of this same idea. There were many reasons which entered into our decision for using the boys in school to clean the dump.

1. Shortage of funds by a sponsoring governmental agent. All federal projects must have a coordinating sponsor which under various set-ups must contribute funds towards the total work cost. There was no agency in the city government which had funds to carry out such a program. Rather than allow the entire idea to go to waste we decided using the boys for the work.

2. Practical education involved. So often we lose sight of the fact that by doing a thing we may learn far more than merely reading about it. The boys who helped in the work became acquainted with real life situations.

3. Appreciation of public property. After the work was completed along the upper stretch, boys who assisted in the work were given an insight into and a respect for common property. Pride in the work accomplished was another measure of success.

4. Accomplishment of objectives by hard work. The old dump had existed for years and in spite of its hideous appearance no one was very much concerned. Like the priest and levite in the parable of the good Samaritan, they all passed by the other side. If the job was to be accomplished it could not disappear of itself but must be overcome by hard work.

Editorial Comment

After the work was begun it proved its worth in many ways. Probably the best summary is expressed in the criticism as written by Editor Percy B. Ruhe of The Morning Call, Allentown, in his editorial page of May 24, 1939, under the heading of 'A Potent Lesson in Civics':

"It was a real problem in civics which a hundred boys of the Harrison-Morton school carried out yesterday when they began the work of clearing the banks of the Jordan creek as to rubbish which makes the valley of that stream unsightly thruout practically all its course within the city's limits.

"Almost half of the boys come from homes in the immediate vicinity of the stream. So, in performing the labor yesterday, they were doing a job to beautify their own environment. The other boys, while they did not have this neighborhood interest, worked with a wider civic interest in mind.

"Cooperating with them was the city thru its Health Department and leading officials who worked as hard as the boys and their teachers to stimulate their endeavor. These set a fine example to the young generation.



During the school year 1938-39 about 175 feet of the former dump had been cleaned.

THE PLACE OF EDUCATION IN CONSERVATION

BY THE EDITOR



The Teacher in this country school in Tennessee, when asked if she taught conservation, said she did not have any material. State Conservation officials showed her how she could apply conservation practices by improving the grounds around the school, thereby preventing erosion, encouraging tree, plant and flower growth, and attracting wildlife and songbirds.

IT was the pleasure of my assistant, William Drake, and I to represent the Game Commission at the Second Annual Conference of Conservation Education and Publicity Writers at Bennett Spring State Park, Missouri, October 5 to 9 inclusive. Thirteen states were represented and others no doubt would have had representation but the time of the year was not quite suitable for a number of them. Representatives were present from Tennessee, Arkansas, Iowa, Oklahoma, Ohio, Pennsylvania, Michigan, Missouri, West Virginia, Illinois, Indiana, Connecticut and Kansas.

The subjects discussed were many, varied and intensely interesting. Some of the major ones included Lectures, Exhibits, Radio, Visual Education, In Service and Out-of-Service Training, Photography, Women's Clubs, Youth Groups, Schools, Publications, Newspapers, Public Relations, and Conservation Publicity in National Publications.

Some states are enlisting the Women's Clubs, the American Legion, and other statewide service and patriotic groups to further their programs. Michigan, for instance, employs a young lady who does nothing but help women's clubs organize statewide programs annually. Not long ago they conducted a poster program in the schools whereby the children who designed the best conservation posters were given a week's tour to one of Michigan's famous summer resorts, the expense being borne jointly by the Women's Clubs and the Conservation Commission. Similar projects are carried on with other service groups.

Conservation education in the schools is being undertaken rather extensively in Ten-

nessee, West Virginia, Wisconsin, Ohio and Michigan. In Ohio, for instance, the conservation department pays the salary of an individual who has his desk in the Department of Public Instruction. This person does nothing but work out and integrate courses of study in conservation for state teachers' colleges and the public schools. Tennessee conducts a summer school for teachers in conservation in which regular credits are given. Saturday schools are also conducted in that state for teachers and weekend hikes are planned in order to study the flora and fauna. Wisconsin also has a conservation summer school for teachers. Interested sportsmen and women's clubs offer scholarships to State Teachers' Colleges and Universities which conduct courses in conservation in order to increase interest in the program.

Quite a few states are now using colored motion pictures to sell their various programs and a number of conservation departments are acquiring practically all their films free of charge by getting some large corporation to finance them merely for the advertising credit they receive on the opening titles. Some states on the other hand employ year-round photographers who concentrate not only on the activities of the conservation department but who take pictures of birds and animals, etc., primarily for use in the schools. Visual education, especially now that motion picture films can be made so cheaply in color, is becoming one of the greatest mediums for teaching wildlife conservation and within the next few years practically all conservation departments will be resorting to this method of education.

A number of states are carrying on unusually fine work with the 4-H Clubs, the FFA, and other farm groups. Their programs are well systematized, and they employ one individual to work with these groups on a comprehensive year-round program including game bird raising, fish rearing, tree planting, and general game management practices.

We also learned that several states make a special effort of selling their programs to sportsmen's associations, employing one or two individuals to work with the clubs the year round. In this way any new departure which is undertaken is quickly brought before all organizations and a plan worked out whereby it can be most practically applied.

The conference also discussed a bill now in Congress which would make available portions of the unused Pittman-Robertson money for conservation education. If this legislation should be enacted we would have an opportunity to carry on certain programs which lack of money and personnel have prevented.

Quite a few states are still employing the use of such supplementary organizations as Nature Guides, Nature Knights, Junior Wardens, etc. Missouri, for instance, has an organization of about 80,000 school children who, by stages, gradually become a Missouri Nature Knight. They are given a leaflet outlining the things they must do to climb each step of the ladder. They are also given a series of buttons, etc., leading up to a very beautiful emblem when they complete the course. California uses a proportion of her license fee to conduct a Junior Warden service in which the youngsters are given uniforms with red coats, etc.

Although many states are using exhibits, we were surprised to learn that the majority of them do not place a lot of faith in them from an educational standpoint. Some states are now contemplating using exhibits only at state fairs, comparable to our State Farm Show. The trailer truck is the other most popular exhibit utilized by other states because it reaches the backwoods country and rural sections where conservation education is needed most.

Except in those states which do not have publicity divisions in their conservation departments we found that the newspaper and radio were used widely in furthering the wildlife program, although some states were receiving a lot better publicity than others, depending upon their official set-up and the number of conservation-minded newspaper editors in their states.

All in all the conference was an outstanding success and the education and publicity departments of the various states represented as well as those not represented, will have been benefitted materially by the exchange of ideas, etc., which took place. It is the plan of the association to send a copy of the proceedings to all state conservation departments and to urge everyone to attend the Third Annual Conference which will be held in the Upper Michigan Peninsula as the guests of the Michigan Conservation Department.

AMERICA'S WILDLIFE

By DR. H. L. SHANTZ *

AMERICA is a land rapidly diminishing natural resources. Ugly erosion sores eat into our fertile lands. Many of our widespread forests have been hacked and burned to the ground. Once plentiful birds and animals are threatened with the fate of the extinct passenger pigeon and the buffalo. Great fish runs that once gave sustenance to thousands have been destroyed. The country's wildlife is in danger!

America's forests have played an important part in the building of this country. The forests seemed endless. But fire and careless use destroyed many forests. With this destruction went much of the natural habitat for certain kinds of wildlife. Today waste of forests is being stopped and more and more attention is being paid to the welfare of wildlife in our wooded areas.

American forests furnished the pioneers with fuel and building material, land for their farms and lumber for their industries. Generations lived and died, sustained largely by these forests and forest lands. As a result of this use, the Eastern Forests as such gradually disappeared and the forest habitat, the streams, lakes and swamps were partly destroyed as a suitable home for wildlife.

At about the beginning of the century the great National Forest system was set up to help stop this loss, to protect forests, forest soils, watersheds, and the plants and animals which live naturally in forest areas. Now about one acre in ten in the United States lies within National Forest boundaries. These forests cover the principal mountain ranges and extend into 37 states and into Alaska and Puerto Rico.

For thirty years the Forest Service has been working for the improvement of conditions, independently and in cooperation with other federal, state and local agencies. Rangers and forest officers have cooperated with local groups to aid in building up strong conservation and fish and game departments in the States with which we could cooperate in carrying forward a wildlife program.

The Forest Service just released its annual big game estimates for the year 1939. These estimates were made during the past winter by forest rangers and other officers. In making these estimates the census takers have used practically every form of transportation known to man. Skis, snowshoes, airplanes, canoes, horses—every means available was used to take the counters into the haunts of big game on the National Forests. These estimates are made by over a thousand forest officers and they bring you a message of accomplishment and hope. The total number of big game animals on the National Forests is now 1,842,000, an increase of 100,000 or 6% more than last year. The 1939 game population is nearly three times that of 1921 when only 590,000 big game animals were reported on the National Forests. There is an average of more than five big game animals for every square mile of land within the National Forest boundaries.

Thirty-two per cent of all the big game in the United States is found on the National Forests. Sixty-two per cent is on state and



The largest wildlife population is the deer.

private lands. Four per cent is found on the Grazing Districts established on the public domain and a fraction of one per cent each on the National Parks and Monuments, the Biological Survey Refuges and the Indian Reservations. In the western part of the United States more than three-fourths of the big game animals range on the National Forests for all or a part of the year.

The largest wildlife population of course is in deer. National Forests harbor 512,000 white-tailed deer or fifteen per cent of the country's entire supply. There are 842,000 mule deer or seventy per cent on our National Forests and 230,000 or thirty per cent of the country's total of Columbia black-tailed deer. The next largest big game family is the elk. National Forests support 140,000 or seventy-nine per cent of the total for the United States. Black bear are next with 58,000 or fifty-eight per cent of the total; mountain goat 18,300 or eighty-eight per cent; antelope 18,000 or thirteen per cent; bighorn 10,100 or eighty-four per cent; moose 7,280 or forty-seven per cent with 6,400 peccary; 5,190 grizzly and Alaska brown bear and 645 European wild boar.

Early this century the Forest Service began to take an interest in wildlife. Of course the Forest Service itself is not very old. In 1876 Congress authorized the Commission of Agriculture to engage a man "with a view of ascertaining the annual amount of consumption, importation and exportation of timber and other forest products" and to learn other pertinent facts about our forests. The Forest Service really came into being just 34 years ago. As I said, our organization began to take an active interest from the very first. Theodore Roosevelt who set many of the forests aside was interested in wildlife.

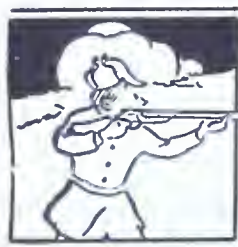
Our first consideration with regard to wildlife is to make conditions of food and cover as ideal as possible. Then, in cooperation with the States, we try to keep the big game population within the natural supply of food by carefully controlled hunting. A sustained yield can only be assured by the planned harvesting of the equivalent of the yearly increase when once an optimum population has been developed. This is vital since overpopulation destroys the food and cover and results in a sharp decline caused by hunger and disease.

To make conditions as nearly ideal as possible we endeavor to safeguard our forests from fire and overgrazing, improve trout streams, develop swamps and ponds, and take wildlife into account in planning timber management. As an example of what can be done, we may cite the Pisgah and the Allegheny National Forests. On the latter, sparsely populated when the forest was established, the annual yield of deer without reducing the breeding herd amounts to over 20,000. The Pisgah has not only furnished excellent hunting but animals for stocking many of the forests of the South and East.

The Virginia forests where we have the whole hearted cooperation of the State of Virginia will, we hope, become important sources of big game and of small game as well. Areas are being improved for wildlife, plantings and openings developed, the areas systematically stocked with deer, turkey and fish. Funds to aid in the improvement of wildlife are secured partly from a special fee of \$1.00 collected by the State from each sportsman who hunts or fishes on these National Forests. We have cooperative agreements with many states for joint management of wildlife.

(Continued on Page 27)

* Chief, Division of Wildlife Management,
U. S. Forest Service.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

TRANSPORTING DEER FROM CAMPS

Q. The question has been brought up as to the proper method of transporting deer from camp to our homes, after being legally killed. Some state that the deer must be transported on fenders of cars or on the outside of the machine. Others say they can be placed in trunks with lids down but accessible for inspection. Will you kindly advise in the Pennsylvania Game News next month?

V.C.S.—Sharon, Pa.

A. Under the law, deer before being transported must have attached the tag furnished with every license, and must bear in plain English the name and address of the owner, his license number, and the name of the county wherein the deer was killed. While there is nothing in the law to prohibit carrying a deer in a trunk when so tagged, it should be easily accessible for inspection and should at once be offered for examination to any Game Protector in uniform who might stop the vehicle for that purpose. Most deer hunters carry their big game openly in plain view, as an evidence of good faith and a desire to observe the law. Big game may be cut up and portions of same transported, **if each piece has attached thereto a card or marker giving the above information.** If such portions are packed or covered, the character of the contents of the package must be shown on the outside so that such contents may be determined by an outside inspection.

* * *

HOW TO USE A COMPASS

Q. How should one use a compass correctly when lost in the woods?

M.S.P.—Pittsburgh, Pa.

A. Possibly the chief value of a compass in the woods when one is lost is to enable him to follow a straight line. For some reason, a person under these conditions is inclined to walk in a circle, and the rigid use of a compass will at least enable him to follow a straight line and thus come out somewhere eventually to safety. The compass, however, is not of much value unless you have a general knowledge of your direction from headquarters before you become lost. Personally, I like to study the directions on the compass from headquarters when first entering the woods so that I will be familiar with the proper direction to follow to return. Unless you are reasonably sure in what direction you are from the starting point, a compass will not help materially. Possibly a better plan for a person lost in the woods is to go down hill until he comes to a stream, then follow the stream on its downward course until he comes to help.

HUNTING RIGHTS OF DEER HUNTER

Q. (1) If a group of ten men kill or assist each other in killing five legal male deer and break camp, may the remaining five men go out hunting as individuals and each one, without assistance, kill another legal deer?

(2) May one man, after helping to bag five legal deer with one group, join another group and help them to kill six legal deer or help kill only one deer?

G.W.D., Jr.—Hummelstown, Pa.

A. Both of your inquiries can be answered by bearing in mind this legal fact: A hunter in Pennsylvania is entitled to kill only one deer, or to participate in the killing of six legal deer a season, only one of which may be a deer which he personally has killed. In answer to your first question, after a party of ten men has killed five legal deer, the five who have not killed a deer may continue to hunt as individuals and each of the five may either kill a deer personally or assist another group in the killing of one more deer. When a hunter has taken part in the killing of five legal deer with one group, he may assist in killing only one more deer with another group and not six. In other words, after he has assisted in any manner in the killing of six legal deer, he must stop hunting deer that season.

* * *

LEGAL BULLET FOR BIG GAME HUNTING

Q. Is it legal to file off the point of a Government 30-06 bullet, drill a hole in it, thereby making it a hollow point bullet, and use the same for hunting deer and bear?

R.R.L.—DuBois, Pa.

A. The legality of the 30-06 shell to which you refer is dependent entirely upon whether the bullet will mushroom or expand upon hitting the first solid object. The present law requires a deer or bear hunter to use a gun propelling one all lead, lead alloy, soft-nosed or expanding bullet or ball, other than one fired from a .22 or .25 calibre rimfire cartridge. To determine whether the load you have in mind is legal for such hunting, I suggest you try firing the bullet into soft wood or a piece of soap. If it proves to be an expanding bullet under those conditions, it will be legal for big game hunting in Pennsylvania.

* * *

OPENING HOUR OF 1939 DEER SEASON

Q. Does deer hunting (in 1939) start at 7:00 A. M. or 9:00 A. M. on the opening day?

B.A.J.—McKeesport, Pa.

A. The 1939 deer season opens at 7:00 o'clock on the morning of December 1st.

CALIBRE .32 RIMFIRE CARTRIDGE FOR DEER HUNTING

Q. Does the new law permit the use of a .32 calibre rimfire cartridge for deer hunting?

O.T.—Boswell, Pa.

A. Yes, any rimfire cartridge larger than .25 calibre may be used on big game.

* * *

HUNTING RACCOONS IN DAYLIGHT

Q. Can raccoons be hunted for during the open season, in the daytime?

S.M.—West Springfield, Pa.

A. Raccoons may be hunted any hour of the day or night during the open season, except Sundays. In other words, it is unlawful to hunt raccoons from midnight on Saturday night to midnight of the day following.

* * *

HUNTING RIGHTS OF FEDERAL EMPLOYEES

Q. I am living in Washington, D. C., and am employed by the Federal Government. Am a registered voter in Pennsylvania. I would like to know if it is unlawful for me to get a resident hunting license?

R.T.—Washington, D. C.

A. Inasmuch as you are an employee of the Federal Government living in Washington, D. C., and a registered voter in Pennsylvania, you are entitled to claim this State as your home for hunting purposes and take out a resident hunter's license. Any game killed under that license must remain within the borders of the Commonwealth and cannot be removed from the State.

* * *

FAWNS LOSING SPOTS; SHED ANTLERS OF DEER

Q. (1) At what age do the spots leave a Pennsylvania fawn?

(2) What becomes of the antlers shed by deer?

J.S.—Turtle Creek, Pa.

A. (1) Pennsylvania fawns lose their spots in from four to five months after birth. (2) Antlers shed by deer are thought by most observers of wildlife to be eaten by wild rodents. In fact, squirrels have on a number of occasions been seen taking parts of shed antlers into dens.

* * *

TRANSPORTING SMALL GAME

Q. Can I transport in my car, small game for a friend who does not want to come home at the time I leave?

A. No. Small game in transportation must, under the law, be accompanied by the owner.



A. HUNTER WILLIS

In Memorium

It seems hardly possible that within a few weeks the Game Commission and the sportsmen lost two of their best friends; Commissioners A. Hunter Willis, of Erie, who passed away during a serious major operation in Philadelphia on October 24, and J. August Beck, of Williamsport, who died suddenly at his home in Duboistown Sunday evening, November 12. Both men rendered invaluable service to the Commission and to the sportsmen during their tenure of office and continued their interest in the State's conservation program after their commissions expired. Both were former officers and active members of various sportsmen's associations and contributed much of their time, money and effort in behalf of the State's wild-life program. Their contributions to the cause were many and will be long remembered by their sportsmen friends and associates throughout the Commonwealth. With the deaths of Mr. Willis and Mr. Beck 19 of the 43 men who have served on the Commission to date have passed away.



J. AUGUST BECK

TRAPPING PROGRAM

The Commission has decided to launch another extensive State-wide game trapping campaign this winter. The results of last year's trapping showed that a total of 22,980 rabbits, 1,820 ringneck pheasants, 63 bob-white quail, 862 gray squirrels, and 56 raccoons were secured in this manner, to supplement the supply of game raised at our State Game Farms and purchased for restocking purposes.

Trapping was done in practically all parts of the State on State Game Propagating Areas, City Parks, City Watersheds, within cities and town, on private nurseries, trucking areas and orchards, on State or Federal Institutional grounds or reservations, and other restricted areas not open to public hunting. The Commission, in cooperation with the National Youth Administration, provided the necessary traps and crates for this vast project, and additional equipment is being made for use this season by the N. Y. A. It is hoped ultimately to make each of our seven Field Divisions self-sustaining, at least in the matter of rabbits.

The Commission needs the active cooperation of all Sportsmen's Organizations of the State in locating suitable places to trap—places where no hunting is permitted and where it would be possible to secure a game supply, or places where game is doing damage and should be removed. Perhaps some mem-

bers know of neighbors who have had game damage, or are familiar with other splendid trapping areas. It may be that many members will be able to assist the Game Protectors in conducting rabbit drives on a big scale on suitable lands, or possibly there are some who could assist in the box-trapping of rabbits. If so, kindly notify your District Game Protector as soon as possible.

Bob Vale, well known columnist of the Philadelphia Daily News, cited in a recent column the case of a chap who drove up to a group of hunters and asked where he could report the killing of a hen pheasant. During the conversation it was brought to light that

"he saw something running through the brush and thought it was a rabbit and shot." Although from the sportsmen's angle this chap is to be complimented for his honest intentions, as far as upholding the law is concerned the fact remains nevertheless that to be on the safe side he should not have shot until he was absolutely sure what he was shooting at. Had he taken this precaution he would not only have saved the penalty involved but acclaimed himself an even better sportsman. And this brings up one point, namely, why shoot at a running bird unless you know it is badly wounded. Like Mr. Vale said, "Some gunners just take a chance, and if they happen to shoot a hen pheasant, they let it lie and go elsewhere in a hurry."

A WARNING!

HANDLE YOUR RIFLES AND SHOT GUNS CAREFULLY.

ANYONE INVOLVED IN A HUNTING ACCIDENT IS LIKELY TO LOSE HIS LICENSE FOR TEN YEARS.

Between Fort Littleton and Burnt Cabins, Pa., on a grading job on Super Highway, an eight point buck jumped into a 58 foot "cut" landing into the mud and water. Truck driver Earl Hamer, accompanied by H. C. Huffman, of Little Valley, was able to grab the large buck by the antlers and led the big fellow to the end of the cut where he was released. The buck bounded for the mountains, none the worse for the experience.—Hon. Wm. G. Fluke, Member, Pennsylvania Game Commission.

THE THIRD RESPONSIBILITY

By M. A. MATTOON

Reprinted from "Forest Leaves" October 1939



U. S. Forest Service

Thinning a 40-year stand of northern hardwoods. The white paint spots indicate trees to remain.

THE responsible administrative officer in charge of a National Forest, the Supervisor, or of a Ranger District, the Ranger, has a three-fold job.

First comes protection against fire, insect epidemics, disease, etc., for without such protection investments in tangible and intangible values and the wise use of them cannot be safeguarded, developed and enjoyed. Second comes the construction and maintenance of those improvements which are essential to the economical and successful administration of a forest property. These two tasks are services, rather than ends in themselves. They lay the foundation for the third and really the essential part of this job, i. e. resource management.

The responsible administrative officer, Supervisor or Ranger, in these Eastern Forests is almost universally a man technically trained in the profession of forestry. Nevertheless his every day tasks and decisions with respect to the management of all of the resources, each in its proper relationship to the other, require that he know something of the management of each; the soil, the water, the timber, the recreation, the wildlife. He views the unit for which he is responsible objectively and all inclusively. He is guided by the principle of multiple use of forest land which envisions such a balance in management of the resources under his direction that the greatest net public benefit will result; benefit not only to the general public, but to the local folks who live within and immediately adjacent to his forest. He is after a balanced program suited to local needs and his philosophy of administration reflects it.

In any such scheme adjustments are necessary. The management of the timber resources, for example, should take into consideration the needs of wildlife to the extent that the combined services to mankind will be greatest. Wildlife is a product of its environment. The relationship between them is extremely complex and we do not yet know all we need to know about them. However, one cardinal principle the administrative officer recognizes. The relationship should be in reasonable balance. Overpopulation results in deterioration of the environment and ultimately in the wildlife itself. Under-population deprives mankind of that amount of enjoyment he should expect.

The management of the wildlife resources divides itself also into three principal parts. Its application, of course, is to be guided by the results of research and study, which are available to the administrative officer through consultation, advice and published material secured from State, Federal and private agencies engaged in wildlife research. He may have a technician in his own staff.

1. The first part has to do with improvement of environment. There are many relatively simple things that can be and are being done to improve environmental conditions. Some of these are

worthwhile, even on those units or Forests where wildlife populations are very meager and the present carrying capacity is far above present requirements. It's not too much to expect that in States where this combination exists now, it may be rapidly reversed. The administrative officer's planting program may involve mixtures in which the selection of species includes those of value to wildlife. We find him dedicating certain openings, such as selected old fields, abandoned roads and railroad grades, etc., to special treatment which does not necessarily involve the planting of timber tree species. In his timber management plans and sales contracts are found provisions for the retention of stream shade, for the dispersement of cutting areas to provide better distribution of young growth, or the retention of food and den trees in cutting operation. In addition, he considers the pruning of abandoned orchards and fruit trees so they will last longer and produce more, the exclusion of mass recreation from sanctuaries, and many other items. These environmental improvement opportunities are grasped to the extent that available facilities will permit.

2. Adaptation of wildlife to the environment involves the control of numbers. With the exception of a few areas, the game and fish on National Forest land are the property of the citizens of the State and are administered by the constituted State authorities. The environment, on the other hand, is the property of the citizens of the United States and is administered by the U. S. Forest Service. Therefore, to best meet the needs of the wildlife, of the environment and to serve the interests of the sportsman and the general public, it is essential that the closest possible working relationships between State and Federal authorities and the public be fostered and maintained. The National Forest administrative officer in this Region approaches this matter of divided jurisdiction on the basis of cooperative endeavor in which the facilities of both public agencies may be pooled in the common problem of good population control. Written understanding in the form of a cooperative agreement makes it practicable and essential for the Director of the State Game and Fish Department and the Supervisor of a National Forest to sit down together and work out those methods and practices which will spell good management on the National Forest. This is now being done in the States of New Hampshire, Pennsylvania and Virginia where the wildlife on nearly 2½ million acres of National Forest Land is being cooperatively handled. Here again the administrative officer finds there are many things that he and his organization can do. He can assist in the State's law enforcement job, in fish rearing and planting, game stocking, jointly establish seasons and bag limits to meet special problems, construct, maintain and operate improvements for administrative and managerial purposes, such as fish nurseries, feeding pens, small dams and ponds, checking stations. He can conduct censuses, special

(Continued on Page 32)

FOX HUNTING NOTES

Now that we are entering one of the bad seasons of the year for distemper, it would be well to call attention to some experiments we are conducting with my pack of one hundred fox-hounds in connection with Dr. William J. Lentz of the University of Pennsylvania Veterinary Hospital where I have the honor to be on the board.

As you know active immunity naturally acquired from exposure to distemper is usually lasting. This is, however, only true when the exposure is with a sufficiently virulent case, and subsequently subjected to a further exposure to consolidate the immunity. The chief difficulty in artificially immunizing against distemper is due to the instability of the virus because it can not be accurately standardized as to potency. We have to concern ourselves not only with the virus but with secondary infections as well.

The least involved method of conferring immunity would be either to expose the subject to an infected animal or infected premises, i. e. a natural infection, or resort to the actual infection of living virus, i. e. artificial infection. The danger of these procedures however lies in the fact that it is difficult to control the activity of either the naturally acquired virus or the artificially acquired virus. However, as both methods have equal disadvantages, we are putting a few litters in the Distemper Ward where they can get plenty of natural infections at no cost. However, a cautious attitude suggests itself,—some method of vaccination must be adopted which will confer immunity to distemper, and, at the same time, reduce or minimize the effect of the virus. Some animals are not fit subjects for active immunization. Sometimes vaccination lowers the resistance to such an extent that secondary infections ensue causing respiratory, intestinal, and nervous complications. Sometimes such infections are not always related to the actual distemper virus, and, although they may occur in association with the virus disease, distemper may nevertheless at times occur as separate diseases, and may affect dogs known to have previously had distemper and sometimes at an age generally regarded as past the distemper age. A fellow master of hounds had over forty old

« « By W. Newbold Ely, Jr., M.F.H.

hounds of his pack down with distemper this year, and all were supposed to have had it before. Infections of this character are usually intestinal, and of a highly infectious nature. Distemper is very much like influenza in humans and varies tremendously in its virulence. You'll recall how during World War I the "flu" caused so many deaths. By the same token some years, I have not inoculated any puppies, and all have come through distemper. One year I inoculated half and did not inoculate the other half, and all the losses were from the half not inoculated. This year I gave serum to forty-two pups which were said to have distemper; all but one survived. Four months later they all got distemper again and nine passed over the canine Styx.

Another friend of ours who says he has lost only half a dozen puppies in ten years and has over fifty young ones coming along each year relies entirely on nursing—when the pups come down with distemper he puts them in a room which is kept at 72° with no drafts and gives them whiskey and raw eggs every four hours.

We are also trying an experiment the idea of which is credited to Dr. Slanetz of New York who claims to have immunized puppies beginning at the age of one week with a dose of active virus, and a second dose of virus at the age of one month; starting out, of course, with the supposition that the bitch herself has had distemper. This time we are exposing the puppies when one week old to a case of active distemper. Puppies as we know are supposed to have a congenital immunity which does not usually last beyond the third month.

In all these methods of combatting distemper it must always be understood that for success it is necessary to start out with animals known to have had proper raising (many puppies because of improper feeding of the bitch never have had a chance in utero), sanitation, and adequate food, rich in minerals and vitamins so as to have the proper fundamental underlying resistance. And above all the puppies should be free of parasites. "Died from distemper" 90% of the time should be called "Died from hookworm."

DEER IN PENNSYLVANIA—PAST AND PRESENT

by Capt. G. W. Dillin

MY first deer hunting was done in 1885, and I have missed but one season since. At that time, and for many years after, few counties in Pennsylvania had any considerable number of deer, but some had more than a mere remnant of former days. In some counties where deer should have been found, they had become extinct. In fact, a complete extermination of this beautiful creature in Pennsylvania seemed far more than a possibility, but heroic measures came in time to save them.

A word as to the several causes that brought them dangerously close to the point of extermination. First, I will name the long open season which ran from November 1 to January 1. Most of the hunting was done in the month of December when the ground was well covered with snow. Another factor that contributed enormously to the destruction of deer was the **Salt Licker**. This character operated extensively on every deer range in the State. His methods are too well known to call for detail; I will merely add that the "Licker" worked from May until September. I saw a lick as late as 1908 in Clinton County.

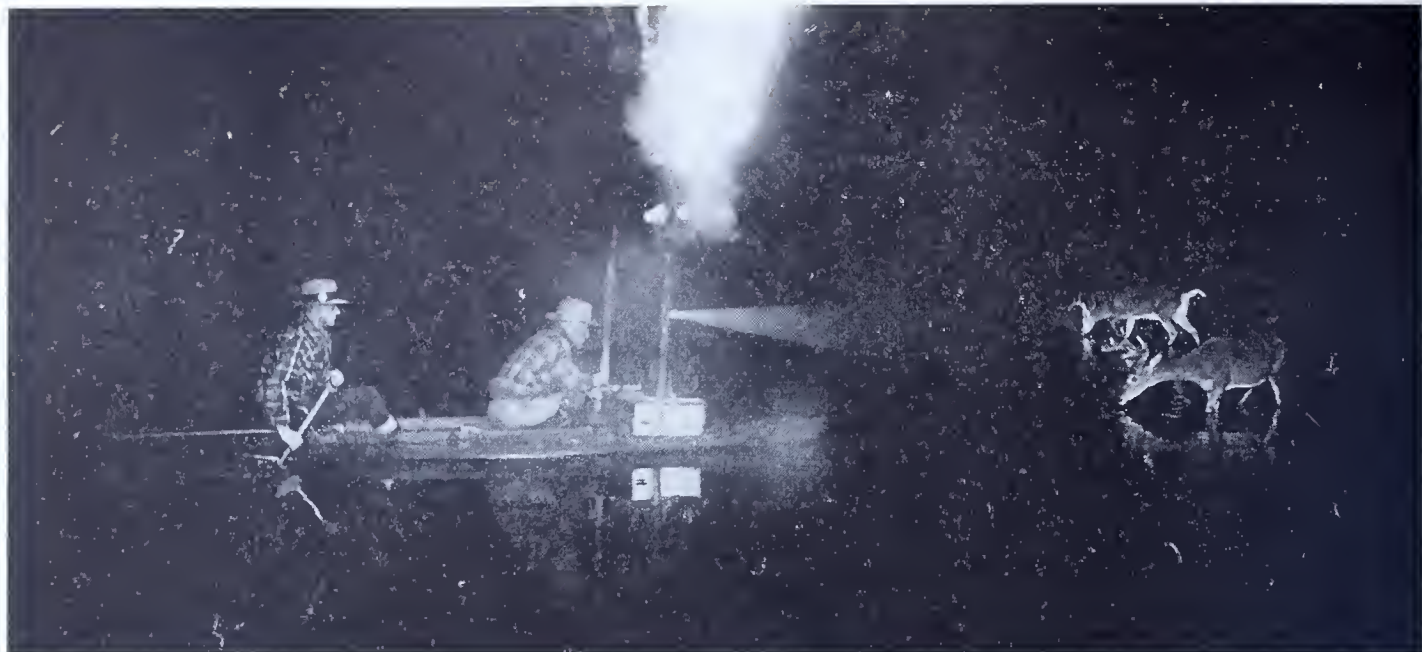
Still another feature of destruction was the use of buckshot, 9 for a 12 gauge and 12 for the 10 bore. About 70% of our Pennsylvania hunters used this weapon between 1880 and 1900. The substitution of the shotgun for the rifle was due to the fact that after the primitive forest had practically gone, the curse of the forest fire with its blighting influence was visited upon every deer range in the Commonwealth. Millions of acres of healthy, young, second growth forest was destroyed again and again. And then the **after-math**. A conglomerate of jungle growth so dense that the visibility was so completely reduced that short range shooting became the order of things, for rarely was a deer seen beyond forty yards. Hence, the popularity of the shotgun with its charge of buckshot for quick action and surer hitting. But its wounding propensities condemned it and later on its use was prohibited by the passage of a measure known as the Anti-Buckshot Bill, which prohibited the

use of more than one bullet or missile for each shot fired. (This bill was the creation of the writer).

Of the several agencies that contributed greatly to the destruction of our deer in by-gone days, both direct and indirect, there was one in a class alone—the dog. "Hounding deer," though illegal since back in the Seventies, was continued in many counties well along into the Nineties. As a rule, this method was employed after deer had become too scarce for successful still hunting or the drive. It was a sort of mopping up process that contributed greatly to the final depletion. But hunting with dogs was not the only way the dog figured in the process of extermination. Prowling dogs that roamed at will reaped an enormous harvest. They worked almost incessantly and were especially severe during the winter and early spring when deer were thin and weak. On three different occasions I found deer killed by prowling dogs. I also knew of a water hole in Franklin County where seven deer were killed by dogs during a severe winter about the year 1891.

The years 1880 and 1881 were extremely severe and a very heavy snow fell late in December 1880. A heavy crust formed and remained for nearly four weeks. In the Pine Grove region of Cumberland County, deer were nearly exterminated by dogs crusting these helpless creatures. I hunted there in 1885 and saw the bleached bones of deer that had been killed as above mentioned. I will also add that during the six days that I hunted, I saw the tracks of but three deer. Dogs had practically exterminated them. Those were the days when our game law enforcement ended at the foot of the mountain and was seldom enforced elsewhere.

When dogs acquire the deer habit there is practically no limit to their energies. They will travel many miles to a deer range and often stay away for days. But at this writing I am pleased to say that wise legislation and liberal enforcements of its provisions has greatly reduced the dog menace. And here let me add that this and several other timely measures have increased our deer to an astonishing degree.



Composite picture showing Hobart Roberts who has been making pictures of wildlife at night for the past 32 years. He "jacked" the famous photographs shown on the two succeeding pages with flash powder before the present era of synchronized flash bulbs and shutters had been dreamed of, and is best known for his deer pictures which have been hung in salons throughout the United States and Europe. Mr. Roberts supplied the material for the captions.

NIGHT PHOTOGRAPHY

By Hobart Roberts

Reprinted courtesy "Frontiers", official publication Philadelphia Academy of Natural Sciences and Mr. Roberts



"In the Silence of Wilderness" was made at Little Woodhull Lake in the Adirondacks with a 5 x 7 camera with F. 4.5 Zeiss Tessar lens at 1/200th of a second. Mr. Roberts warns that fog condensing on the lens will cause much havoc at night than the photographer's scent.



"A Leap in the Dark" (above was a prize winning print at the FRONTIERS' photographic contest last February. Like the shot of the deer leaping a beaver house, it was made at Little Woodhull Lake. When "jacking" for pictures, it is very important that there be no moon, and if there is a late one it is well not to be caught napping about the deer's feeding and play ground.



"The Sulking Deer" was made some years ago with two Nesbit flash lamps fused with duPont squibs after they had each been filled with $\frac{3}{4}$ of an ounce of flash powder. However, the ideal outfit today would be a camera with a speed $\frac{1}{5000}$ th of a second, plus flash bulbs and fast film.

CURRENT TOPICS

LICENSES REVOKED

Upwards of 80 revocations of hunting licenses were recommended by the Game Commission at its October meeting. Denial to hunt in most cases included periods of from one to two years, although in some instances the recommendation was higher. The Commission also formally acted upon 39 cases involving hunting accidents, property damage, assault and battery, etc. These 39 hearings brought the total held so far this year to over 100, about 25% of which were cases in which human beings were killed in mistake for groundhogs. In many instances those persons killed or injured in mistake for groundhogs contributed in a way to their own misfortune by making themselves as inconspicuous as they possibly could, wearing no red, and lying close to groundhog holes. One individual sitting hunched up in the tall grass near a groundhog hole was eating a can of sardines and the bobbing of his head was mistaken for a woodchuck by a hunter several hundred yards away using a high powered rifle with telescopic sights. Of course, this does not excuse the hunter, and the point is mentioned simply to caution those who unthinkingly court trouble by placing themselves in positions where they are apt to be shot in mistake for game.

A great many cases also involved self-inflicted hunting accidents and a number included damage to farm property and assault and battery toward landowners.

Pennsylvania game coverts were replenished considerably as a result of the propagating activities carried on by sportsmen's organizations and members of farm-game projects in cooperation with the Game Commission. The Commission shipped to the above groups during the past season a total of 12,889 six-week old ringneck pheasants, 21,877 day-old pheasant chicks, 1,846 pheasant eggs and 1,584 six-week old Bobwhite quail. These organizations and cooperators rear the birds to a suitable age for liberation and hold a large proportion of them over the winter for spring restocking.

The Commission accepted contracts to purchase a total of 11,251 full grown ringneck pheasants for restocking throughout the Commonwealth in March, 1940, to add to the birds held on its own game farms. These birds were purchased from private game breeders within the Commonwealth, the first year Pennsylvania breeders could supply the Commission's needs.

The Commission also entered into contract to purchase 1,570 Pennsylvania-produced Bobwhite quail, the entire number offered by Pennsylvania breeders, and 3,500 Bobwhite quail were contracted for with breeders outside the State. Of the total number of quail contracted for, approximately 800 to 1,000 will be used for breeding stock on the State Farms, and the balance will be liberated in April.

FEDERAL PROGRAM GROWS

The Federal program for wildlife conservation has been going ahead with such strides in the last six years that there has been nearly 1,000 per cent increase in the acreage devoted to waterfowl refuges, Dr. Ira N. Gabrielson, Chief of the United States Biological Survey, stated recently, when he spoke at the thirty-fifth annual convention of the National Association of Audubon Societies at the American Museum of Natural History.

Sixty dollars will buy anyone a live, half-ton buffalo, \$55 will be enough to purchase a mature elk, and \$45 will give one title to a full-grown mule deer. These prices were recently approved by Secretary of the Interior Harold L. Ickes for the sale of 299 buffaloes, elk, and deer on big-game preserves administered by the Bureau of Biological Survey.



Photo by Fuller Coffin

WHY? Asks Mr. Groundhog, do hunters insist upon shooting each other in mistake for me?

"This Department has, within the past few years, undertaken certain fur rehabilitation projects in which I am sure you would be interested. A large area was placed under development as a muskrat rehabilitation project in 1936. During the construction period dams, dikes, canals, headgates, etc., were built to provide adequate means of controlling water levels in the area. Through their operation conditions with respect to food and winter mortality have been greatly improved. During the development period the area was closely patrolled to prevent trapping. The results of our efforts in this direction have been extremely encouraging, the rate of increase in the muskrat population being between three and four hundred percent per annum.

"Within the past year a further area of approximately 150,000 acres, which is outlined in red upon the same map, was set aside by the Province for development in cooperation with the Dominion Government as a muskrat rehabilitation project for the benefit of the Indian and Halfbreed population."—J. S. McDiarmid, Minister of Mines and Natural Resources, Winnipeg, Manitoba.

The temperature of many caves in Pennsylvania is about 55° the year around.

WINTER GAME FOOD

Farmers and landowners are encouraged to leave some weeds and shrub growth along fence rows and in the unused corners of their fields for wildlife. Such material provides them with both shelter and food during severe weather.

Many farmers in the State have assisted in solving the winter problem for wildlife by leaving a few rows of unhusked corn along the edges of the fields. Others have assisted wildlife by husking a considerable portion of the corn crop from the stalk instead of cutting all of it. The standing fodder and the few missed ears furnish excellent game food and cover. Others are planning to aid wildlife by leaving a few shocks of unhusked corn, spread out at the bottom, in the fields until spring.

Natural food and cover is the only solution to the successful propagation of bird life which means so much to farmers and orchardists.

"In October's issue of Game News there was the list of persons denied hunting licenses. As I glanced over the list I was proud to see that out of the five hundred and fifty revocations only seven were from Philadelphia County. I have always been under the impression that the farmer and landowner felt that the fellow from the city was the one who violated the laws and became careless. Considering the large amount of registered hunters from Philadelphia County I think the very few violations they have is a fine record."—Thomas Colwell, Philadelphia, Pa.

A 15,000 to 20,000-acre tract of land in East Texas is being sought by the Texas Game, Fish and Oyster Commission to be used in an effort to preserve the pure strain of eastern wild turkey, of which there are not more than 150 birds remaining in the Lone Star State.

A refuge management plan that has proved satisfactory to the West Virginia Fish and Game Department provides for the establishment of inviolate wildlife refuges for a period of time (usually five years) immediately upon acquisition of the land by the department. According to the plan, the entire unit is protected against all hunting, fishing and trapping during this time, after which the area is divided into sectors with refuges of smaller size scattered throughout the tract.

How fast can mourning doves fly? Their greatest speed has probably not been clocked, but you hunters will know why those delectable little birds are so hard to hit when you learn that a pair of mourning doves were clocked at exactly seventy miles an hour for more than 300 yards recently by Charles E. Friley, Jr., regional game manager for the Texas game department.

CURRENT TOPICS

FIELD NOTES

Burt Oudette, Game Protector in charge of the Pymatuning Museum, Crawford County, reported that he flushed about sixty blue geese and three snow geese on October 20 while placing boundary markers on the refuge area.

"At about 9 o'clock in the morning on October 24th, I was sitting in my office waiting for Mr. Rissman, of the U. S. Biological Survey, who was coming to look over some land. Just outside the office window is a pond in Tomtit Run. This pond is about 50 feet long, and averages 12 feet wide. I have some trout in this pond, and enjoy watching them jump for flies. There is a large bunch of rhododendron growing in the bank and it covers quite a bit of the pond at the upper end. As I looked out of the window I saw that the water had been disturbed rather too much for any sized trout that was in there. Then I got my eye on a large muskrat sitting on the bank just at the edge of the water. As I looked the rat slid into the water and swam up under the bunch of rhododendron. As the rat disappeared under the bush a mink came out from the upstream side and headed up stream at a pace that left no doubt in my mind that it was his desire to vacate the premises as soon as possible. The nearest rat den is in Cold Stream, about 400 yards from the scene described. It is my opinion that the old rat had chased the mink that far from its den."—Refuge Keeper Elmer Pilling, Centre County.

Albert Buzas, Minersville, brought a male ringneck pheasant to the office of the Commission which had flown against a high tension wire along the Susquehanna River near Harrisburg. The bird was badly shocked and dazed and died shortly afterwards.

As one way of dealing with the rabbit nuisance on his father's 5,000-acre estate at Godalming, Surrey, England, David Leigh, son of Sir John Leigh, M. P., is freeing six buzzards he has been rearing. The birds were obtained as fledglings in Wales, where nothing but young rabbits were found in their nest. The first two buzzards released have kept within a radius of six miles of the aviary. Sportsmen have been appealed to not to shoot them in mistake for eagles.

A bill in Parliament aimed at the rabbit pest has just become law. It empowers local authorities to order an occupier of land to control his rabbits and if he fails to do so to enter upon his land and exterminate them and charge him with the cost.

Every owner of a warren is required to fence it in so as not to be a nuisance to his neighbors. The act regularizes the use of poison gas for exterminating rabbits, gas being considered less cruel and probably more effective than the gin trap.

The annual damage done by rabbits is estimated at not less than \$200,000,000 a year and by some at \$350,000,000 a year, or between three and five times the total value of all the subsidies farming now receives. Rabbits cost the Forestry Commission alone \$150,000 a year.—New York Times, Aug. 28, 1939.

SAFETY CAMPAIGN

In an effort to make hunters more safety-minded and to reduce the possibilities of hunting accidents while afield the Commission prepared for release during November and December several hundred motion picture trailers in sound showing "How Not to Hunt." The picture portrays vividly the many ways in which hunting accidents can occur if hunters are careless. The National Youth Administration, Harrisburg branch, is assisting in the distribution of the films.

All senior high school boys in Altoona who planned to hunt this season were organized into a school group which studied hunting rules and regulations, sportsmanship, guns, trespass regulations, fire prevention and safety first. Earl W. Dickey, attendance counsellor, of the senior high school in that city, formed the group and directed the study. Local men were selected for their knowledge of hunting, guns, and the woods, and they addressed the boys on these subjects. These instructors included Joseph Parks, Dr. J. C. Nugent, Dr. L. P. Glover, an authority on guns, and C. C. Brennecke, local Game Protector.



Richard Swayne and Russell Kyper, Junior Sportsmen of the Huntingdon County Game, Fish and Forestry Ass'n., Inc., gather specimens of Game Food, used in an educational display at the County Fair and at the Sportsmen's Field Day.

At least three times, great glaciers have advanced from the north and spread over northeastern and northwestern Pennsylvania.

DUCKS IN COLOR FEATURE NEW BULLETIN

The Commission announces a reprint of its Pymatuning Waterfowl Refuge bulletin which includes 21 plates of common ducks in full color. This publication, known as No. 19, can be secured for 10c either at the Museum on the Pymatuning State Game Refuge near Linesville or at the offices of the Commission in Harrisburg. It is highly recommended, especially for school teachers and children.

AUTOS vs. WILDLIFE

The following is a list of dead animals and birds that were observed along the highways of Bucks and Montgomery Counties by Kenneth P. Wonder, New Britain, from October 1, 1938 to October 1, 1939:

Bats, 2; blackbirds, 2; bluebirds, 1; bullfrogs, 2; house cats, 27; chickens, 7; clipping sparrows, 1; crows, 1; catbirds, 1; dogs, 2; gray fox, 1; guineas, 1; groundhogs, 2; Baltimore orioles, 1; ringneck hens, 16; ringneck cocks, 2; rats, 3; rabbits, 45; robins, 6; gray squirrels, 3; skunks, 27; starlings, 2; English sparrows, 4; sparrow haws, 2; swallows, 3; snakes (garter), 14; turkeys (domestic), 1; turtles (land), 2; opossums, 5; and pigeons, 1.

Mr. Wonder writes: "I carried a notebook in my car and marked down each animal or bird that had been killed by a vehicle. For several months the rabbits and cats ran neck and neck, but during the summer the rabbit toll increased. If this list was multiplied by the other counties in the state, with some deer and bear included, the result would be enormous, and I venture to say 90 per cent needless. Game birds and animals make up only about 1/3 of the above list, yet there were 104 deaths in this group, compared to only 83 in the other 2/3 of the group. It seems that the game takes it on the chin from every angle."

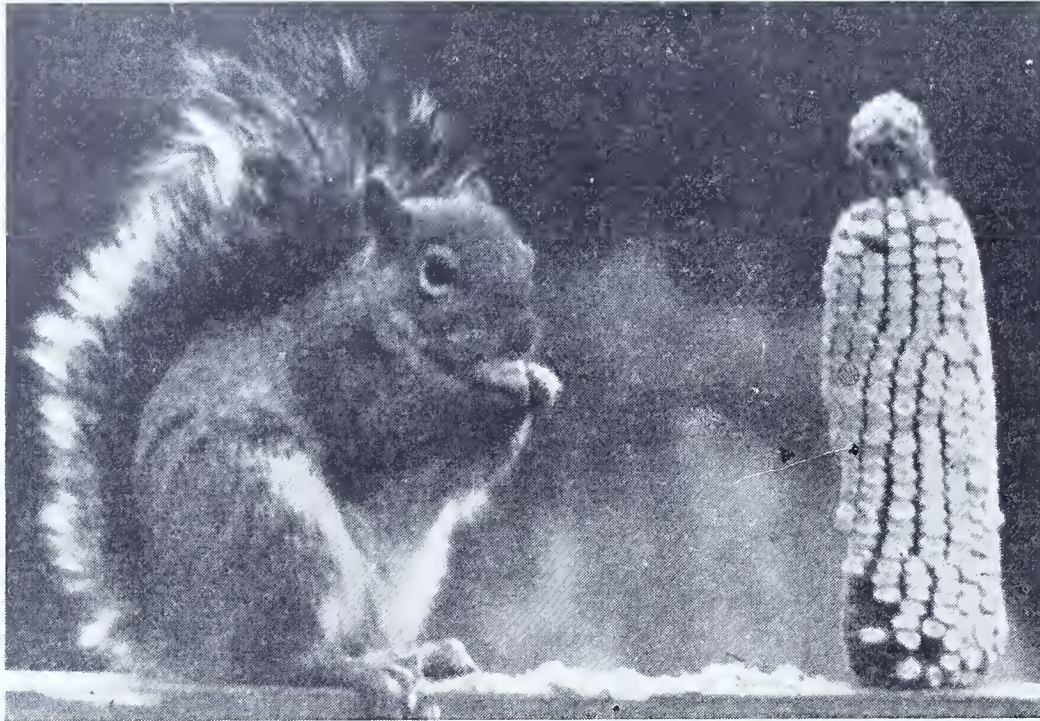
"My two brothers and I have been hunting in the Carter Camp Section of Potter County for years, and in getting these figures together we did not call an animal a buck unless we were certain of its sex. Otherwise it was just a deer. We also tried to avoid counting the same deer twice—on the same day. Some years we were in the woods several days before opening day and stayed during the entire season. Other years we were there for only a few days. Last year we did not hunt. Regardless of the number of days spent there the number of deer seen per day during the open season holds pretty steady, viz—1932, 4 1/5; 1933, 3 2/5; 1934, 5 1/5; 1935, 6 7/15; 1936, 3 1/5; and 1937, 5.

"Does this percentage of bucks hold true with surveys made by the Game Commission?"

Before Season							
Year	1932	1933	1934	1935	1936	1937	
Total No. of deer seen	32	73	46	10	4	4	
No. of legal bucks	8	6	5	1	0	0	
No. of spike bucks	1	1	0	0	0	0	
During Season							
Total No. of deer seen	63	51	88	97	16	30	
No. of legal bucks	13	8	10	8	2	1	
No. of spike bucks	0	0	0	0	0	2	
No. of deer seen during year...	95	124	134	107	20	34	
Total No. of bucks	22	15	15	9	2	3	

Grand total of deer, 514; grand total of bucks, 66; percentage of bucks, 12+; deer seen per year 85 2/3; bucks seen per year, 11.

CURRENT TOPICS



Just a reminder that now is the time to start thinking about spotting your feeding places and putting up shelters.

TRAVELING laboratories, enabling wildlife physicians to care for the health of their four-footed or feathered patients in the field more rapidly than ever before, have just been added to the equipment of the Bureau of Biological Survey, under the program for conservation of the Nation's natural resources.

Installed in a trailer which the wildlife biologists can haul to various sections of the country to study conditions in the field, the mobile laboratory is equipped with a sink with running water, a refrigerator, a folding microscope and lamp, and other scientific gadgets. Provided with a large dome light for night work, the biologists also are supplied with a centrifuge, electrical apparatus to determine the alkalinity or acidity of water or other substances, banks of test tubes and other glassware, surgical instruments, and a post-mortem table.

With the available equipment, the traveling biologists can determine water conditions, test soil and other substances, make cultures of disease-producing organisms, and conduct other important observations and tests of factors in the field that may affect wildlife diseases.

By diagnosing conditions in the area involved, the biologists already have been able to recommend practices that have prevented or controlled local outbreaks among certain forms of wildlife.

The Biological Survey urges farmers not to trap too many skunks, because the animals are valuable rat destroyers. Barns and other buildings housing skunks are free from large rat populations.

The value of sound conservation practices was recognized centuries ago by prehistoric cliff-dwelling Indians in Colorado, it has been discovered through surveys by the National

Park Service in Mesa Verda National Park. Hundreds of check dams, built to increase the available acreage of tillable land, present visible evidence of their farsightedness.

Trap Contest

Continuing in its efforts to encourage humane methods in trapping fur-bearing animals, The American Humane Association, New York City, announces the opening of its thirteenth annual humane trap contest.

As in the past a total of \$550.00 in national prizes and a number of special state prizes are offered. Awards are divided into three groups:

Traps for taking animals alive and unharmed—First Prize, \$150.00; second prize, \$75.00.

Leghold Type (traps that hold without injury)—First prize, \$100.00; second prize, \$50.00.

Traps that kill humanely—First prize, \$85.00; second prize, \$40.00.

A special prize of \$50.00 donated by General Charles McC Reeve will be awarded at the discretion of the judges.

Special state awards are again offered for entries from Illinois (Massachusetts and Wisconsin).

The purpose of these annual contests is to stimulate an interest in the development of humane devices and the use of humane methods for taking animals when necessary to take them. Humane traps will not only solve the humane trapping problem but will also prevent wanton waste of our valuable wildlife.

The contest closes April 30, 1940 and all are eligible to compete.

For entry forms or further information write the Wild Life Department of The American Humane Association, 135 Washington Ave., Albany, N. Y.

Federal Aid Projects in Other States

Following are some projects undertaken by other States under the Pittman-Robertson Federal Aid Program.

The Wyoming Fish and Game Department has proposed the use of a portion of their Federal Aid funds to acquire a tract of land near Jackson, to be used as a winter feeding ground for elk.

The Illinois State Natural History Survey Division of the Department of Conservation has submitted plans for the conduct of a study on farm game problems in central Illinois.

The Alabama State Fish and Game Department has submitted plans for an inventory of the wildlife resources. The entire State will be systematically surveyed and work will be directed toward the determination of the present distribution and approximate population of the more important game and fur-bearing animals of the State.

The State of Washington, Department of Game, has submitted plans for acquiring winter deer range, the first unit of a comprehensive restoration program for the State. The area contains approximately 18,000 acres and formerly constituted one of the finest winter ranges for mule deer in the region. Investigators report, however, that due to over-grazing the food supply has been reduced to one-third or one-fourth its former abundance. It is planned to regulate grazing so that the plant growth will be restored and increase the game carrying capacity of the lands involved.

The Minnesota State Game and Fish Department administers approximately three and one-third million acres of refuges in the State. Investigation disclosed that many of the areas at present do not maintain adequate breeding stock and, therefore, are not producing wildlife commensurate with the carrying capacity of the refuges. The State plans to increase the facilities for the control of predatory species and the policing and management of the refuges so as to raise the productivity of the refuges and assure maximum results.

The Virginia Commission of Game and Inland Fisheries recently proposed a project to supersede the original study of the Effect of Clearings in Forests on Wildlife. The new study has been broadened so as to be more inclusive. An effort will be made to determine prior to the initiation of management practices the present wildlife populations, density and distribution, to determine the most economical and practical type of game management on forest lands, including a study of clearings under various conditions, keep records of the use by wildlife of the clearings and to determine the effect of various timber management practices on wildlife populations.

The Idaho State Fish and Game Department receives thousands of letters annually from ranchers and farmers complaining that beaver are flooding their lands and interfering in other ways with their farming prac-

CURRENT TOPICS

tices. Formerly all of these beaver were trapped and pelted.

On the other hand, the Department receives many letters from farmers and sportsmen asking to have beaver planted in streams of the arid and moutainous regions where there are no beaver at present, but where they have been and are now needed as water conservers.

It is proposed as part of the Federal Aid program to live-trap approximately 3,000 beaver from the overstocked areas in various parts of the State and move them to suitable sites where their water impoundment activities can be put to needed use.

The program will be of great value from the standpoint of water conservation, flood and erosion control and will help to prevent the destruction of forests by fire, as well as be beneficial to other forms of wildlife. Through expanding the present beaver range to its former extent where possible, the State will ultimately be able to reap substantial financial benefits through harvesting the surplus populations.

DEER KILLED IN PENNSYLVANIA TO PROTECT PROPERTY

(January 1, 1934 to December 31, 1938)						
COUNTY	1934	1935	1936	1937	1938	Totals
Adams	3	...	...	...	...	3
Allegheny	...	...	...	...	...	...
Armstrong	...	...	...	...	3	3
Beaver	...	...	...	...	...	...
Bedford	1	...	11	7	27	46
Berks	1	1	...	2	...	4
Blair	5	27	10	13	16	71
Bradford	62	100	28	56	69	315
Bucks	...	...	...	...	...	...
Butler	4	...	1	...	3	8
Cambria	...	8	8	16	...	32
Cameron	137	81	26	42	113	399
Carbon	4	19	19	12	24	78
Centre	10	13	4	2	95	124
Chester	...	...	...	...	...	...
Clarion	27	56	35	40	75	233
Clearfield	45	65	21	30	123	284
Clinton	112	203	52	65	159	591
Columbia	8	18	38	21	36	121
Crawford	...	...	...	...	3	3
Cumberland	...	...	5	5	9	19
Dauphin	5	13	5	1	10	34
Delaware	...	...	...	...	...	...
Elk	45	85	25	50	177	383
Erie	...	...	...	...	...	...
Fayette	...	...	4	...	4	8
Forest	90	155	49	96	167	557
Franklin	3	12	5	11	7	38
Fulton	1	6	13	19	9	48
Greene	...	...	...	...	...	...
Huntingdon	21	97	27	7	1	153
Indiana	1	2	3	4	9	19
Jefferson	72	85	66	108	148	479
Juniata	3	18	6	27	15	69
Lackawanna	2	1	...	6	8	17
Lancaster	...	...	...	...	...	...
Lawrence	...	...	...	...	...	...
Lebanon	...	...	...	...	1	1
Lehigh	...	...	...	...	...	...
Luzerne	13	25	29	15	56	138
Lycoming	228	349	137	145	314	1,173
McKean	24	43	38	70	232	407
Mercer	1	1	...	...	4	6
Mifflin	14	79	29	60	35	217
Monroe	15	9	19	35	19	97
Montgomery	...	...	...	...	...	...
Montour	...	...	...	...	...	...
Northampton	...	...	...	3	...	3
Northumberland	...	...	...	...	4	4
Perry	3	21	13	11	13	61
Philadelphia	...	...	...	...	...	...
Pike	41	67	9	1	15	133
Potter	208	217	109	223	528	1,285
Schuylkill	8	14	9	14	33	78
Snyder	6	2	1	5	5	19
Somerset	4	...	12	19	90	125
Sullivan	83	191	107	58	238	677
Susquehanna	1	...	7	3	...	11
Tioga	92	103	49	93	302	639
Union	15	31	5	15	19	85
Venango	77	102	132	124	150	585
Warren	33	75	21	52	60	241
Washington	...	...	...	...	...	...
Wayne	8	11	17	18	24	78
Westmoreland	1	41	2	...	2	46
Wyoming	6	22	51	16	29	124
York	...	...	...	...	...	...
Totals	1,543	2,469	1,257	1,620	3,483	10,354



Mr. and Mrs. Leon Nogie, Glen Lyon, Pa., are both ardent hunters, and good ones judging from the looks of their game bag. Every year finds more women accompanying their hubbies in the field, a logical and wholesome solution to the problems of the outdoor man. Take the wife along.

SMELL OF FRESH MEAT MAKES A MENACE TO FREIGHT CREW

Lewistown, Pa., July 2.—Traffic was suspended on the main line of the Pennsylvania Railroad for a full hour near Millerstown when a fast freight train was held up by wildcats.

Locomotive No. 3427, with a train of dressed beef, parted at a defective coupler while passing through Millerstown Narrows, and Conductor Jack Weaver, of Harrisburg, hurried forward from the caboose, only to find the situation in charge of an old she bob-cat and her two half-grown kittens.

The cats, evidently attracted by the odor of fresh meat, were making night hideous with their howls in an effort to attract the poppa wildcat. Weaver took refuge on top of a box car, where he remained until liberated by Brakeman H. A. Hohenshelt and E. S. Eckelberger, who drove the cats back into the woods with stones and clubs.

Curley Sowers, a track walker, encountered the same cats later and scared them from the tracks when he held his lantern in front

of his face like a headlight and ran at them, making a noise like a locomotive.

The above is a copy of a clipping found recently while looking over some old papers the year in which same was printed is not on same. However, if my memory is near correct it must be between twenty-five and thirty years ago.—Wm. A. Conroy, Olean, New York.

There are more than 400 lakes and ponds in Pennsylvania. Most of them are in the northeastern counties. Wayne county has 112, Susquehanna county 77, Pike county 56, Lackawanna and Luzerne counties about 40 each and Monroe county 27.

The Pennsylvania-New Jersey State boundary mostly follows mid-channel of Delaware River, but on Susquehanna River from the Maryland line to the north side of Union and Northumberland counties, the county boundary is the west bank of the river.

FUR FACTS

By Douglas Wade

(Editor's Note): Many articles concerning trapping and fur-bearing mammals have appeared in past issues of the GAME NEWS, but now the trappers and fur dealers will have devoted to their interests a specific page, or portion, of each future issue of the News. All interested persons are invited to contribute to this feature.

Articles on how to trap or where to trap will not be accepted unless they have particular bearing on: (1) Improved trapping methods that tend to eliminate waste; (2) Humane, or live-trapping, methods; and (3) Specific techniques useful in the localized control of predators.

Suggested topics for contributions are field observations, trapping records, old trapping diaries, comments on laws, bounty, seasons, primeness of furs during trapping seasons, and education. If there are any particular topics you should desire, make your wishes known. Send all inquiries to Fur Facts Editor, Pennsylvania Game Commission, Harrisburg, Pennsylvania.

THE PENNSYLVANIA GAME COMMISSION'S FUR RESEARCH PROGRAM

By the time this issue of *The Game News* reaches you, another trapping season will have started and some 100,000 trappers and 800 fur dealers will be harvesting a crop that is valued annually at over a million dollars. If we were to consider only those fur-bearing mammals native to the State, we should find that Pennsylvania ranks second among all States in wild fur production, exceeded only by Louisiana which annually relies on a prodigious crop of muskrats to maintain its leadership.

Your Game Commission is fully aware of the values of fur-bearers and trapping, and has underway a fur research program that has become a model being followed by several other States. It is the purpose of this article to make known the status of this program which should enable the Game Commission more soundly to manage our fur resources.

Already, an efficient method to tally the annual fur catch has been developed. This is done through checking on the number of furs shipped out the State and through study of the fur buyers' report. An excellent study has also been made on the Pennsylvania bounty system and the results have been made available in Research Bulletin Number 1. (Copies of this publication may be obtained by writing to Pennsylvania Game Commission, Harrisburg, Pa.)

In the Fall of 1938, through the assistance of the Federal Aid Act, the new program was inaugurated. It was divided into three aspects, Economic, Inventory, and Special. The Economic Aspect, or Survey, was carried out in a carefully selected sample area (Snyder County) where 5,117 families were interviewed concerning their trapping activities. The results of this survey have been compiled and will shortly appear in printed form.

This year, the Economic Aspect will be limited to a detailed study of trapping activities.

(Continued on next Page)

THE LAND PURCHASE PROGRAM

By W. Gard Conklin

TRACTS RECENTLY APPROVED FOR PURCHASE

A total of 108 offers of sale of lands to the Commission were considered and formally acted upon by the Commissioners at their meeting held in Harrisburg October 18 and 19, 1939. The aggregate area involved in these offers was 30,346 acres, or an average of 281 acres per offer.

Forty-one of the offers, totalling 12,542.7 acres, were unconditionally accepted, and 2 offers containing 706.8 acres were accepted subject to certain conditions. Counter offers, at prices less than specified in the options, were made by the Commissioners to 11 landowners for a total of 2,420.0 acres.

Action on 10 offers, totalling 3,169.4 acres, was postponed, and 44 offers, totalling 11,507.3 acres, were rejected.

Certain of the conditional and counter offers were agreed to by the respective landowners; others, as was expected, were not agreed to. Purchase contracts were promptly entered into for the 41 tracts accepted unconditionally, and for 7 conditional and counter offers agreed to by the landowners, totalling 13,163.5 acres.

The tracts for which purchase contracts were entered into are here listed.

RECENT LAND PURCHASE CONTRACTS

LOCATION COUNTY	TOWNSHIP AND PRESENT HOLDINGS TO WHICH ADJACENT	OWNER OR OFFERED BY	ACRES
Beaver	Ohio Township Adjacent to lands previously approved for purchase	Esther A. and Mary O'Mara Elliott	106.8
		R. H. Kirk, et al	441.0
Bedford	Mann Township Adjacent to Game Lands No. 49	Brown and Schleigh, Assignees of Anna A. Gibboney, et al ..	237.0
Bedford	South Woodbury Township Adjacent to Game Lands No. 73	S. B. Burket	219.0
		Brown and Schleigh, Assignees of Anna A. Gibboney, et al ..	202.0
		Do.	93.5
Bradford	Leroy Township Bounded on three sides by Game Lands No. 36	James W. English	100.0
Butler	Washington Township Adjacent to Game Lands No. 95	Hamilton Oil & Gas Co.	450.0
		Anthony Gostey	23.5
Centre	Patton Township 4 miles Northwest of State College	William A. Strouse	251.0
		George B. Goheen, Jr.	209.6
		James A. Taylor	232.5
Crawford	Beaver Township Adjacent to Game Lands No. 101	Walter Law	36.0
		A. R. Brenneman	65.0
		K. H. Spencer	10.0
		Charles E. Tower	64.0
Crawford	Rockdale Township Adjacent to Game Lands No. 85	Cathryn Haibach	50.0
Crawford	Sparta Township Adjacent to Game Lands No. 144	Mary Titus	27.0
		Lura V. Robinson	45.0
Crawford	Cussewago Township Adjacent to Game Lands No. 152	John F. McLaughlin	68.0
Erie	Amity Township Adjacent to lands previously approved for purchase in Amity Township	J. M. McCullough	20.0
Erie	Wayne Township Adjacent to Game Lands No. 154	Caroline B. McCoy	165.0
		Fred Wallace	66.0
		Fred Wallace	50.0
Erie	Union Township Adjacent to Game Lands No. 102	C. A. and W. M. Hubbell.....	40.0
Erie	Waterford Township Adjacent to Game Lands No. 109	Cathryn Haibach	50.0
Fulton	Union Township Adjacent to Game Lands No. 49	Calvin Beatty	200.0
		Guy Crawford	44.0
Fulton	Union Township Adjacent to Game Lands No. 128	Viola McKee	40.0
Greene	Jackson Township 10 miles Southwest of Waynesburg	Kenneth Milliken & Albert Blair	311.0
		W. V. Hoskinson	322.0
Greene	Jackson Township 11 miles Southwest of Waynesburg	Laura Stockdale	135.0
		William R. Tague	200.0
		Nella H. Bailey	100.0
Lycoming and Sullivan	Plunkets Creek and Hillsgrove Townships Barbours and Hillsgrove	Lawrence J. Stopper	3,809.2
Pike	Palmyra, Blooming Grove and Lackawaxen Townships Near Lake Wallenpaupack	David D. Medway, et al.....	2,500.0
Schuylkill	East Brunswick Township Adjacent to Game Lands No. 106	William E. Groff	10.9
Somerset	Allegheny Township Adjacent to Game Lands No. 104	Emma Norris	250.0
		Mrs. G. B. Butler	20.0
Somerset	Larimer & Northampton Townships Adjacent to Game Lands No. 82	Milton R. Ernst	62.0
Susquehanna	New Milford Township and extending into New Milford Boro.	Harriett and Pauline Ayers....	290.0
		D. L. & W. R. R. Co.	441.5
Susquehanna	Great Bend Township Adjacent to Game Lands No. 35	Anna V. Sturek	100.0

THE LAND PURCHASE PROGRAM

Tioga	Middlebury, Tioga and Richmond Townships Adjacent to Game Lands No. 37	Lillie E. Chance 278.0 Frank & Fred Starkey, Exec. .. 338.0
Venango	Rockland Township Adjacent to Game Lands No. 45	Charles A. Ablett 50.0
Wayne	Scott Township Adjacent to Game Lands No. 70	Charlotte Gardinier 40.0
Warren	Brokenstraw Township Adjacent to Game Lands No. 86	Charles R. Moore 300.0
Totals 48 purchase contracts.....		13,163.5

Purchases Recently Consummated

Since last reported in the Game News, the Commission secured title for 15 tracts totalling 6,583.9 acres for which purchase contracts had previously been entered into. These tracts are here listed:

COUNTY	GRANTOR	State Game Lands Number	Acreage
Blair	First National Bank of Williamsburg.....	118	3,479.3
Bucks	Lycurgus Kirkpatrick	157	5.9
Butler	Butler County National Bank & Trust Co.	164	346.2
Cambria	Cambria County Commissioners	26	118.8
Columbia	Elsie F. Rhawn	58	7.4
Erie	Federal Land Bank of Baltimore	163	183.1
Fulton	Thomas Hess	124	2.2
Northumberland	Whitmer-Steele Co.	165	1,104.8
Schuylkill	William J. Wiest	132	536.1
Somerset	Oran H. Walters	50	4.0
Tioga	Daisey Loveless, Executrix	37	188.2
Tioga	Fred L. Waters	37	212.1
Tioga	Mary W. Hughes	37	213.5
Tioga	John O. Hoare	37	100.3
Venango	N. F. Hodge	39	82.0
TOTAL			6,583.9

The acquisition of the above mentioned tracts brought the aggregate area of State Game Lands to 616,152.08 acres.

FUR FACTS

ties with 100 selected trappers throughout the State cooperating. These trappers will keep a daily record of the number of traps set, the catch, the amount of time spent in trapping work, together with prices received for pelts. They will also keep an accurate record of all animals, other than fur-bearers, which they catch. (If you are interested in keeping similar records, write to Douglas Wade, Box 66, Beavertown, Pa.)

The Inventory Aspect will consist of mapping the distribution and relative abundance of fur-bearers throughout the State, while the Special Aspect will be concerned with detailed studies of the effects of the bounty system on trapping.

Starting this Fall and continuing for the next four or five years, special studies will be conducted on the life-histories, food habits, and diseases of the muskrat, the skunk, and the red and gray foxes. Methods of live-trapping muskrats will be developed, and a number of muskrats will be tagged and released to test the feasibility of re-stocking this number-one fur-bearer.

Another important feature of the research program is taking place at the Research Division's Experimental Station located in Lycoming County, where physiological studies are being conducted with Pennsylvania animals, among which are many of the fur-bearers.

Cooperating with the Commission in these studies are workers of the United States Biological Survey, and the Pennsylvania State College. The degree of success of the entire program will, however, depend on the cooperation received from trappers and fur-dealers. This feature page is designed partly to build up a cooperative spirit and through it you and the Game Commission can exchange ideas.

Observe the Laws. Don't Overtrap.
Eliminate Wasteful Practices and
Take Furs only when Prime.

VETERANS STUDY NATURE

Officials of the Veterans Administration Facility, Coatesville, have proven that the inauguration of a study of natural sciences by a Patient-Organization at the Facility is a distinct addition to existing occupational therapy stages in neuro-psychiatric hospitals. They believe that with the further growth of interest in all branches of natural sciences they are creating a substitute against such time when their patients can no longer engage actively in some of the already existing activities. It must be apparent, officials claimed, to the students of occupational therapy that nature, which is at all times around them, offers an ever ready laboratory for study and reflection and that patients who interest themselves deeply are helped considerably.

Editor's Note: The Editor and other officials of the Commission have had the privilege upon occasions to lecture and show pictures before the Patients-Naturalist Club at the Facility and the interest manifest by the students has been amazing. They take a keen interest in the wild birds and animals on the hospital area and have learned to identify most of them. They have also been given excellent instructions in botany and entomology and have come to know many of the wild flowers and insects which are found on the area.





J. L. NEIGER, Chairman.



WILLARD QUICK, Vice Chairman.

At a recent meeting of the Northeastern Division of the Pennsylvania Federation of Sportsmen's Clubs, held in the State Game Commission office in Kingston, J. L. Neiger, this city, was elected chairman, succeeding Norman Farnham, of Honesdale. Neiger, who has served for the past year as vice chairman was succeeded by Willard Quick, Monroe County commissioner and president of the Monroe-Pike Sportsmen's Association. Neiger is also president of the Lackawanna County association.

Messrs. Neiger and Quick will assume office on January 1 and their positions as chairman and vice chairman, respectively,

The Sportsmen's Council of Mercer County did a good job this year by organizing seven new clubs, making eleven sportsmen's organizations in that county to date. The Council recently held a Farmer-Sportsmen's Program at the Mercer Fairgrounds and also conducted a Sportsmen's Exhibit at the Stoneboro Fair. Howard McIntire, President of the Council, says that two clubs are handling ringneck pheasants furnished by the Commission this year and that he expects more to cooperate next season.

Francis Knelly, of Hazleton, who drives from that city to Oneida, Schuylkill County, and back every day, a distance of about 20 miles, kept a record of the game he saw killed on the highway from April 1 to September 1 as follows: 123 rabbits; 2 ruffed grouse; 5 skunks; and 3 weasels. On some of the trips he said he did a little executing of his own to the tune of 3 stray dogs, 7 stray house cats, and 13 crows.

automatically make them members of the board of directors of the state federation. Election of Neiger marks the first time that a Lackawanna County man has held the office since the division was organized seven years ago. The division has a membership of over 5,000 and takes in the counties of Monroe, Pike, Wayne, Susquehanna, Wyoming, Lackawanna, Luzerne and Carbon.

The delegates to the meeting yesterday also decided to recommend to the state fish commission that ice fishing be permitted this year for two months, beginning Dec. 1, and that five tipups be allowed for each person with the day's limit to be fixed at six pickerel and fifteen perch.

The members and families of the Crawford County Sportsmen's Council recently toured the county visiting game lands, the Pymatuning spillway and museum, and other points of interest. The trip covered the entire county and was attended by a caravan of about 75 cars and 400 people. It ended at the Titusville Clubhouse with a hot supper served by Theodore Bartholomew, chef of the Titusville branch. C. W. Fay was Chairman of the Committee and was ably assisted by Game Protector George W. Keppler and several of his deputies.

Five Centre County organizations, including Nittany Valley, Pleasant Gap, Port Matilda, Bellefonte and State College were represented at a recent dinner meeting of the Centre County Federation of Sportsmen's Clubs held at State College. This organization carried on an extremely active campaign last year and all indications point toward a large membership for 1940.

COON TRIALS

The Bucks-Montgomery County Coon Hunter's Club held its Semi-Annual Coon Hound Field Trial recently on the Eastern State Penitentiary Grounds near Gratersford. Forty-four dogs were entered from Pennsylvania, New Jersey, Maryland and Delaware.

There were six preliminary Heats run in addition to the Final Tree, Final Line and Pot Chase. The winners were as follows:

First Heat—first line, Sweeps, Lloyd Saunders, Norristown, Pa.; first tree, Drive, Behr & Deloughey, Madison, N. J.

Second Heat—First line, Range Rider, Woodward & Tyler, Avenel, N. J.; first tree, Buck, Bach & Kichline, Hellertown, Pa.

Third Heat—First line, Turk, Bach & Kichline, Hellertown, Pa.; first tree, Turk, Bach & Kichline, Hellertown, Pa.

Fourth Heat—First line, O'Henry, Behre & Deloughey, Madison, N. J.; first tree, Blue Jim, Stoney Kennels, Wilmington, Del.

Fifth Heat—First line, Homer, P. Patton, Supplee, Pa.; first tree, Homer, P. Patton, Supplee, Pa.

Sixth Heat—First line, Lead, Mr. Walls, Chestertown, Md.; first tree, Ben, E. Conrath, Fleetwood, Pa.

Final Tree—Buck, Bach & Kichline, Hellertown, Pa.

Final Line—O'Henry, Behre & Deloughey, Madison, N. J.

Pot Chase—First line, O'Henry, Behre & Deloughey, Madison, N. J.; first tree, Blue Jim, Stoney Kennels, Wilmington, Del.

Report by Ambrose Gerhart, Game Protector, Souderton, Pa.

Over 200 enthusiastic sportsmen attended the annual booster meeting of the Lehigh County Fish and Game Protective Association at Allentown recently. The Lehigh group has been particularly interested in promoting conservation education. A demonstration of its work along this line can be clearly seen by referring to the article by Charles H. Nehf, Club Secretary, which appears in this issue.

HUNTERS!!!!

Stop! Look! Listen!

A hunter popped a partridge on a hill;
It made a great to-do and then was still.
It seems (when later on his game he spied)
It was the guide.

And one dispatched a rabbit for his haul
That later proved to measure six feet tall;
And, lest you think I'm handing you a myth,
It's name was Smith.

A 'cautious' man espied a gleam of brown;
Was it a deer—or Jones, a friend from town?
But while he pondered by the river's rim,
Jones potted him.

George F. Shepherd.

STOLEN

One "Fox", 12 gauge, single barrel trap gun with two sets of barrels, thirty-two inches in length, serial No. 400001. The stock on this firearm was walnut, straight grip with a Monte Carlo insert, the insert being of lighter colored wood than the main portion of the stock and equipped with a Judson rubber pad in which the leather facing had been removed. The gun was encased in a tan leather case made especially to hold the two barrels and stock.

A buff colored cotton shooting jacket with recoil pad on the right shoulder.

One pair of gold shooting glasses with ear guards, the lenses being of amber color and ground to proper refraction.

All of this property was stolen from an automobile owned by Dr. J. W. Frank, M.D., of 1730 Spruce Street, Philadelphia, Pennsylvania, on June 15.

Dr. Frank is exceedingly anxious to locate this property and likewise offers a liberal reward for any information concerning the same.

Attention might well be directed to gun clubs where this particular firearm would be advantageous in shooting clay or live birds.

\$50.00 REWARD

\$50.00 REWARD will be paid for the return of a Golden Retriever. Male. Ear tip height about 2 feet 6 inches. Weight about 70 pounds. Age 4 years. Golden, coffee color, with lighter feather. Answers to name of "Kaffi." Home in Fox Chapel District. Wore no collar when lost October 24, 1939. If found call H. J. Heinz II, Sterling 2290 or Cedar 5700, Pittsburgh Exchange, or write him, c/o the H. J. Heinz Company, Pittsburgh, Pa.

LOST

20 gauge shotgun, Winchester pump gun, Model 1912, #3593.

32 Winchester Special, lever action, #930491, gold front sight, Lyman Peep. Couple notches and nicks on stock. If found notify Peter Lease, R. D. 4, Bedford, Pa.

LOST

Red bone bull terrier and Blood hound pup, name of Bob. Head inclined to look like bull, may crouch when one comes near him. Small white spot on chest, also has scar on chest. Hair almost as short as if clipped, very sleek, cherry red, small legs and feet. Rat tail and blackish. Broad head and chest. 1½ years old. Dog has decided darker stripe down back, and was in excellent condition. Dog was lost while hunting in Chester County, near the Yorger Farm and Memorial Park in the vicinity of Malvern, Pa. **LIBERAL REWARD** for return or information. Notify Guy Croyle, Centennial Rd., Penn Valley, Narberth, Pa.

STOLEN

Black Gordon Setter, Male, 8 years old, all black, hair very thin on tail. Wearing a black strap collar with three or four Chester County licenses, and a big ring on it. Last seen near New Garden and Landenberg Townships. If found notify Dominico Torello, West Grove, Pa.



Individual shooting honors for the fourth annual field day of the Federation of Sportsmen's Clubs in Lehigh County were taken by the four men pictured above. From left to right: Dewey Fenstermaker, Palmerton, shooting a score of 48x50 blue rocks, placed first in the visitors class; A. G. Freeman, 60 Wyoming St., Allentown, on 47x50, was tied in second place for membership honors; Harvey W. Muth, Allentown R. 3, registered 48x50 targets to lead the top membership prize, and Barton M. Snyder, Allentown R. 2, with 47x50 tied with Mr. Freeman.



Officials of the county unit, reading as in the upper photo, are: Charles H. Nehf, Allentown, secretary; John H. Craig, Slatington, treasurer; Forrest B. Kiefer, Alburtis, first vice president; Tilghman S. Cooper, Jr., Coopersburg, ex-president, and Earl Cope, 173 Ridge St., Emmaus, second vice president. President F. Al Brown was not present at the time.



All ready for trial heats which because of the weather were started too late. Paul Struhar was chairman of arrangements for the trials. The open trial, run over a scented course of about one and a half miles, was won by "Sunrise," a hound owned by O. H. Krock, Alburtis.

SOMERSET WOLVES

By WM. S. LIVENGOOD, Sr.

STANDING well over six feet tall, straight as an Indian, a noble type of Gothic Huguenot, William S. Livengood, Sr., of Somerset County, uncle of popular "Bill, Jr.," on the "Hill" the veteran publisher belies his 78 years.

"I am a year older than the late Martin Grove Brumbaugh but we were close friends when we attended Juniata college, where my nephew, the present secretary of internal affairs, graduated in 1920.

"Juniata was a modest institution of higher education when Martin and I were students there but under Dr. C. C. Ellis' leadership it is developing faster than our fondest expectations. When I left college in 1880 I was a surveyor awhile, then came a chance to teach school in Thayer county, Nebraska, in 1884, in a region settled by former Somerset countians, the county superintendent being a Myersdale boy. Among my pupils was a boy named Mehaffey whose father in 1879 had killed the last bison in Thayer county. Even when I was in Thayer there was much virgin prairie and the huge buffalo wallows were exactly as the bison had left them. Skulls and bones of the vanished millions fairly littered the plains. Prairie chickens, akin to the vanished heathcocks of Pennsylvania, were plentiful. Yet later I was glad to get back to the mountains of my native Somerset county where I have remained except for the work on the engineering corps of the Buffalo, Rochester and Pittsburgh railway in Elk county, and the South Penn—Warren VanDyke's and Walter Jones' famed 'dream highway.'

"Another bird that had become very rare is the wild pigeon. I don't agree with some

writers on the topic that none was seen after 1876. I saw them by the millions in Elk county as late as 1881 and 1882. They came to Pennsylvania much earlier than most nature writers claim, or else some flocks remained with us all winter. In Wilcox, Elk county, where 1,000,000 western buffalo hides were tanned at the Shultz tannery, between 1870 and 1885, during snowstorms in January, February and March, 1882, wild pigeons flew across Wilcox so low that every man, woman and child who could handle firearms was out potting them by the thousands. We were told that later the pigeons established a vast nesting in Forest county. I saw wild pigeons flying over the Clarion river by the millions about the same time or in 1883. In the autumns of 1877 and 1878, I think in January, I saw wild pigeons flying from the north over the Casselman river in Somerset county in such enormous, dense companies the sun was obscured from mountain to mountain. I heard much, too, from my older relatives concerning the last wolves in Somerset county. My aged uncle and aunt, John and Barbara Keim, I remember them well, resided in a tiny log cabin near Salisbury and for most of their lives were familiar with wolves and bears. One winter's night the wolves seemed to howl off every peak on all sides of their home, louder and fiercer and longer than they had ever known. It was the last time that they ever heard the wolves. It seemed as if they realized their time had come and pulled out to some far country where game was more plentiful and they were not subjected to such merciless persecutions.

"When Aunt Barbara's people, the Meyers, of Lebanon county, moved westward they spent a night at Grantsville, in Garrett county, Maryland. During the night wolves surrounded their tavern, howling dismally until daybreak. The next day the family turned north, eventually becoming the founders of Meyersdale. In 1887 I reached California, having stopped at several western states on the way. In 1937, 50 years later, I retraced my steps westward and revisited familiar scenes in California, Washington and Oregon. I still write for my newspaper, the Meyersdale 'Republican' and regard Arthur H. James the greatest governor in a generation. My old friend Marion D. Patterson is an outstanding judge, but I fear Blair county is going to lose him to the supreme bench. I recall the visit of the Pennsylvania Alpine Club to Negro mountain in 1921. It was a memorable occasion and I rejoice that such mountaineering veterans as Harry McGraw, Bruce Hunt, Major W. J. Cooper and others still live but Harry B. Kinch's and Col. Thomas W. Lloyd's loss would be an irreparable one to any outdoor group.

"One night my elderly Keim relatives heard a commotion in their pig pen and going out with the old tin lantern beheld a 300-pound black bear trying to make a getaway of it with a suckling pig tucked under each arm. The old pioneer grinned at bruin making its clumsily greedy effort to climb over the high fence and said, 'Not so fast, old friend.' Turning to his wife, Keim said in Pennsylvania Dutch, 'Go to the woodshed quick and fetch the axe.' When she returned the old nimrod slaughtered the bear and while his wife held the lantern aloft skinned it with his crooked knife and made a wonderful coat out of the hide. Those were great days when nature provided everything."



Wildcat at bay. Bounty was removed on these colorful predators to insure their perpetuation. Unlike the Cougar and the Wolf, these cunning creatures shall ever be a part of our forest areas if wise laws prevail.

The Tamaqua Rod & Gun Club recently printed a very appropriate announcement of a forthcoming meeting in which they included some of the things the club did during the past year, namely: the sponsoring of a vermin contest for which prizes were awarded; distribution of about 10,000 brown trout in local creeks from the club's fish propagating pools; the releasing of 97 twelve-week old ringneck pheasants furnished the club by the Game Commission at six weeks of age; the installation of an outdoor pistol range for day and night shooting, and affiliation with the Anthracite Trap Shooting League. Some of the things the club advocates for its members for next year include the **payment of dues**, attendance at meetings, participation in skeet shooting, and a general "booster club" campaign.

Cooperative Farm Game Projects now comprise almost 127,000 acres including over 1500 leased agreements between private landowners and the Game Commission.

CRIST SHOCKEY OF WOLF SPRINGS

Crist Shockey, a pioneer hunter of the Pennsylvania mountains, was treed by a pack of wolves one evening while returning from a hunt. All night long they howled around the big pine in which he perched, in zero weather, at times devouring one of their own number which became injured, clawing the tree and leaving marks which could be seen many years after. When daybreak came they sought their dens and Shockey climbed down and made his way to his cabin, where he was long recovering from frostbites of that nerve wracking night. Near the cabin was a spring which never froze over and to which bears, wolves and panthers came for water. The old hunter caught hundreds of them in traps and picked them off with his rifle, and to this day it is called Wolf Spring.

Shockey was a German, a soldier of the Revolution, who located in the western Pennsylvania mountains after the war as a trapper and hunter. He marketed his pelts each year in Hagerstown. In 1807 he took his winter catch east on two pack horses, and, after making his sale, stopped at a store to buy a copy of the Hagerstown Almanac, which even at that day was found along with the Bible in every frontier cabin. Shockey could not read, and when the dealer offered him a bargain he bought a large bundle of the almanacs, expecting to sell them at a good profit on his way over the mountains; but when he offered them for sale it was discovered that the dishonest dealer had sold him the useless almanacs of the previous year!

In the mountains, near Shockey's cabin at Wolf Spring, lived James Kelly, another early woodsman, and the two often hunted and trapped in company. One morning Shockey went to the Kelly cabin, but found only traces of human hair and blood, and, following the trail, found the hunter at a nearby stream washing the blood from his head and face. He had bunked close to the cabin walls, and a panther had clawed out the chinking and then reached in and seized Kelly by the scalp and about snatched him bald-headed.

Bounties ranging from \$8 to \$10 up were offered by the different frontier counties for wolf, panther and bear scalps. The hunters usually cashed in their scalps in the counties offering the highest bounties, and in one case a cunning mountain hunter on the border of Westmoreland and Somerset counties, in Pennsylvania, placed the carcasses of dead horses and cattle just across the line in the former county where the bounty was \$20, double that in the latter county, and thus he made his kills at the highest profit and without resorting to subterfuge to prove that the wolves and panthers were actually killed within that county.

DO YOU KNOW . . .

A fossil coral reef is exposed in a road cut on the west bank of Brodhead Creek, two miles north of Stroudsburg. There is another one in Wonderland Caverns at Manns Choice in Bedford county.



Members of the Sportsmen's Guild of Richeyville, Pa., feeding game during the winter of 1938-39—another reminder that our efforts in behalf of wildlife do not cease with the close of the hunting season.

"While enroute from Coudersport to Galeton on route 6—east of Denton Hill, on the evening of October 25th, I observed the following episode in the drama of the wild. Darkness had settled in its usual impenetrable mask, which shrouds the wooded mountains and hills of Potter County in the fall of the year. One must be constantly alert during the latter days of October in order to avoid collision with the white-tail deer, as it is usually about this time, that the call of the wild, in its inscrutable way, urges the lordly buck to pursue his mate, which increases the hazard of collision. Being on the alert for such events, I was challenged in my right of way by the smallest of owls, the Saw-Whet Owl, which evidently had been perched on the side of the road waiting for his evening meal. A small mammal of some kind hastily attempted to cross the highway, when with the grace of a feathered arrow this tiny bird of prey struck and held his victim. All in an instant this episode occurred. I observed the challenge and look of defiance on the part of this tiny creature, as he was aware of the danger of the wild two-eyed monster bearing down upon him and challenging his right to procure his evening meal. I narrowly averted striking the owl and his victim by swinging sharply to the right and applying my brake very sharply. Upon glancing to the left I observed the tiny owl escape with his evening meal."—Field Division Supervisor M. E. Sherman, Elk County.

The Sixth Annual Convention and Fourth Annual National Crow Shoot will be held at Kenton, Ohio, June 28 and 29, 1940. Headquarters will be at the Weaver Hotel. Local Committees are now being appointed and the Sportsmen at Kenton are planning to make this the largest attended and most successful crow shoot that we ever held. The Secretary, Leo M. Fox, Nicholas Bldg., Toledo, Ohio, will mail a copy of the rules to anyone that wants them.

AMERICA'S WILDLIFE

(Continued from Page 11)

I think the figures show that wildlife on the whole is faring very well under the improved conditions. Antelope, deer and elk have increased remarkably since 1921. The increase has amounted to over 600 per cent for antelope, 250 per cent for deer, and 160 per cent for elk. Similar increases are shown in mountain goat—50 per cent and moose—45 per cent. Black bear has also shown a 30 per cent increase. The grizzly in the United States shows a slight decrease of 8 per cent since 1924. Recently, with State cooperation, areas have been set aside to enable this great game animal to rebuild a productive breeding stock. Only the bighorn has shown a significant decline. This has been gradual and slow on National Forests and is probably due largely to predation. Every effort is being made to safeguard this valuable species of which we have 10,100 on fifty-seven National Forests.

In the case of the California Condor we have established a sanctuary to safeguard the remnant of this species on the Los Padres National Forest.

On the whole, the National Forests with one-tenth of the land area have almost one-third of the big game. We average about five big game animals per square mile of land which is more by far than that of any other Federal agency.

But are we satisfied? No! Our present populations by no means represent the full opportunities of our National Forests lands and waters for producing all types of wildlife. We believe that with proper management and better care in balancing numbers of animals with condition and environment we can very greatly increase our production.

During September 112 game prosecutions were made entailing penalties in the amount of \$3,675.

THE DEER NUISANCE

THE deer has become a nuisance in many parts of Pennsylvania. Last year's effort to reduce the herd by a short open season on deer without antlers was proper but not sufficient in areas where deer are so numerous as to destroy crops. It was opposed and resented by certain classes of citizens—sentimental folks who think it a crime to kill does, sportsmen who do not consider the rights of others and sundry publicans who want plenty of deer around to show their guests. They and others united and persuaded the Legislature to enact an amendment to the game law providing that whenever 50 per cent of the licensed hunters of any county oppose an open season on deer without antlers no such season shall be provided by the State Game Commission. Which means, and is intended to mean, that regardless of the interests of farmers and all others the Game Commission cannot allow the slaughter of the sacred doe. Many sportsmen of longer vision and greater fairness opposed this bill, but sense could not prevail over sentiment. Let us hope that the Governor will veto the amendment and so leave to the Game Commission the power to regulate the number of deer in any area. The Commission has heretofore attempted to be fair to farmers as well as to others and should not be hampered by a foolish legal restriction of its authority in the administration of our game policies.

Those who proposed this foolish legislation will deny that deer are too numerous. The evidence is all against them. The surveys of the Game Commission reveal the fact that deer are so numerous in some regions that they have destroyed their own food supply. The evidence of many farmers who have lost part or all of their crops shows what actually happens with too many deer. Right here in Allegheny county one fruit grower's employees and friends

had to kill fourteen deer the first day of last year's open season. This in a county of 123 political units, mostly towns and cities, and a population of 1,642,000. Other farmers in other counties have been compelled to kill more than that in attempting to protect their crops and then failed to protect them. The Game Commission estimates that last year automobiles killed about 2,500 deer on our highways, many of these collisions with serious injuries to those in the cars. Plantings of trees on public shooting grounds and forest lands are destroyed by deer. The Game Commission has one report which says that the WPA planting crew looked behind and saw the deer following and eating the seedlings as they were planted. A recent survey by a federal expert on one tract of land in central Pennsylvania reveals four times as many deer as should be there for their own good. And these are only a few examples.

What are farmers to do if this amendment becomes law and if the Game Commission is unable to prevent extensive damage to crops and trees? One thing is to demand adequate payment for the actual damage, through the courts or by legislation, such payments to be made from the funds of the Game Commission. If this is impossible, and it comes down to the survival of the fittest, the deer must go, at least to such an extent as to prevent damage to agriculture. No other course is possible. Just how this may be accomplished is yet a question, but an organized effort will ultimately achieve it. And those who have failed to listen to reason, who have insisted on maintaining destructive deer regardless of the rights of others, will be responsible for whatever is done to the too big deer herd legally or otherwise.—From Pa. Farmer, June 17, 1939.



"Don't feel bad because you didn't get a deer. Honey! I got one, with the car, coming from a bridge party."

A MARATHON BEAR 1904

A hunting party, one cold day,
In the hills near Parker's Glen
Started a large black bear,
Who had not yet reached his den.

They trailed him through the snow,
Through thickets, left, then right,
He was near to Lackawaxen
When they left his trail that night.

Some Lackawaxen sportsmen
Took the trail next day
Through laurel, rocks, and scrub oaks,
But old Bruin got away.

They went ahead, and on a stand
With patience, wait and shiver.
In spite of all their knowing ways
Old Bruin crossed the river.

Narrowsburg had hunters too,
And at break of day did look
Upon the trail that Bruin made,
Which led to Beaverbrook.

Here again as darkness fell
They all gave up the hunt,
Returning to their firesides,
While Old Bruin gave a grunt.

Hunters strong from Beaverbrook
Were early on his trail.
They tried all day to head him off,
But all without avail.

That afternoon I saw those tracks
And blood upon the snow,
Still his pace was sure and strong
As onward he did go.

(Continued on next Page)

Farmers Can Have Game and Cover

EVERY farm can have natural game foods and game cover. One of the best lectures ever given on the subject came from a farmer who said: "All I need to have quail is to have briars. When I have lots of briars I have quail."

It does not require work to have game cover though work will improve it. For example, after the wheat and oats are cut, ragweed is likely to come in the stubble fields. In the past and in many localities, it has been the custom to mow these ragweeds one or two times before cold weather, but such mowing destroys the cover value of the weeds without destroying the seed crop; the weeds will still produce seed and they will sprout up again next year in a stubble field, but the quail will be deprived of the denser growth that would have made protection for them. And quail do like to feed on ragweed.

Smartweed is another good quail food. It often grows in low parts of a corn field and if quail are feeding in such a field they are likely to be found where the smartweed grows.

In some cases, food and cover will provide fruit for the farmer. A patch of wild blackberries is one of the best game harbors, and it also supplies berries for the farm family. The same is true of raspberries. Asparagus is a coveted vegetable and an asparagus patch will be sought by quail and rabbits. Quail sometimes will nest in it.

Plantings of wild roses have been made for decorations on some of the state properties. Nature lovers regard them as one of the best productions of nature. These plants also offer excellent shelter to game birds and rabbits and in winter the seed, known as hips, are relished by both song birds and game species.

In the woodlands, farms may have the oaks, walnuts and hickories that produce lumber and at the same time feed the game. Quail relish acorns; so do squirrels. But the woodlot can be made beautiful with redbud, dogwood, service-berry and even sassafras. Wild cherry yields a beautiful lumber and also feeds the birds.

Beech is sought by furniture factories and it yields an excellent wild-life food. Basswood has nearly disappeared, but it also is an important tree both for lumber and for its seed. Persimmon fruit lasts for three months and every fruiting tree has a game trail leading to it—or two or three of them.

Turning from the trees and back to shrubs, the greenbriar is one of the best harbors for birds and rabbits and its fruit is supposed to be an important food for raccoons.

Every hunter abhors the sticktight weeds and many a man has spent hours combing weed seed from the coat of his favorite hunting dog, but the fact is that many of these weeds yield important foods for game, and the sticktight is really a little bean or peanut and much relished by the quail.

Sumac has seed that the quail will eat when the ground is covered with snow, and when snow hides the grasses and clovers that the rabbits like, they will survive on sumac bark.

A patch of blackberries to shelter the birds and help feed the farm family, a few raspberries, wild roses and bittersweet shrubs along the fence rows, a patch of asparagus in the garden, a few blackhaws along the creek—such things may make the difference between a gameless farm and a farm on which bobwhites whistle from the fence posts. On every farm, these things may not be possible. There may be farms where every square inch of land must be used for crops. But there may be other farms where a blackberry patch may be possible, where a few reedhaws can be tolerated in the pasture, where the ragweeds can be left to feed and protect the quail. These are all questions for the land owners to answer. And if farmers are interested, they can consult the game wardens of their counties. The wardens know that the first work of a farm is to produce a living, and that game food and game cover must be secondary considerations. But farmers who are interested can obtain many a suggestion by consulting their game wardens.—From Outdoor Indiana, August 1939.

A MARATHON BEAR

An Eldred Party did pursue
And trailed o'er hill and fen.
They finally reached the Delaware,
Where he crossed near Parker's Glen.

We do not know just where he went,
Or if pursued next day,
But if he reached Log Tavern Swamp
He surely got away.

—By John M. Austin.

Get your minimum requirement of 500 shots per year in practice, with a rifle—at a cost of about five dollars for cartridges.

Use a .22 caliber rifle if necessary, but you will gain more by using your big hunting rifle.

Put together your own practice cartridges, reduced loads in your fired cases. For making such reloads a three-dollar bullet seater is the only indispensable tool. Use hardened lead bullets three to five thousandths of an inch larger than the groove diameter of your rifle. Use eight to 12 grains of DuPont No. 80 powder, or of any bulk shotgun smokeless powder. Power and range: about like standard 32-20 or 32-40.

As for seing wild birds and animals in the woods, try a week-end trip over back roads of Clinton and Potter Counties, Juniata and Mifflin Counties.

The bag of grouse in Scotland was reported far below par this year, the decrease being attributed to disease among the young birds.



"Oh Goody, Goody, here's George back already with the new fur coat he promised me!"



I thought you said you used a turkey call.

FOR MEN ONLY

Tune: "There Are Smiles"

There are dears that make us happy
There are dears that make us blue
There are dears that steal away the sunshine
As the sunshine steals away the dew
But the dears that have a tender feeling
Are the dears we love and cherish bright
For they know just how to cook and serve us
And we thank them all tonight.

FOR WOMEN ONLY

Everybody works but father
He sits around all day
Feet in front of the fire
Waiting for hunting day.
Mother takes to scolding
She does it with a sneer
Everybody's waiting at our house
To see that deer.

FOR MEN ONLY

Tune: "Sweet Adeline"

Sweet ven-i-son, My ven-i-son
I hunted you from sun to sun
We loaded our guns
To shoot you down
Now your' cooked and on our plates
My ven-i-son.

—from banquet program

Lycoming County Sportsmen.

Nesting Habits and Causes of Nest Morality of the Ringneck Pheasant

(Continued from Page 7)

have to be placed much farther ahead of the cutter bar.

Eight nests were destroyed by harvesting. One hen returned to incubate her nest in a field of winter barley that had been combined (figure 4).

The failure of 76 of the 310 nests under observation was caused by predators. This was 24.5 percent of all the nests, or 30.6 percent of the nest failures.

Among the predators, the skunk (*Mephitis mephitis*) did the most damage to pheasant nests. Twenty-nine nests, or 9.4 percent of all the nests, were broken up by skunks. Skunk destruction could usually be identified by the large hole chewed in the shell, the frayed membrane, and the eggs scattered close to the nest (figure 5). Very often toothmarks were found on the shells.

Despite the fact that skunks were known to destroy some pheasant nests, the writer believes that they are a decided asset to most of our agricultural areas. The general food habits of this animal run largely to such harmful insects as white grubs and grasshoppers. Further, many citizens of the Commonwealth derive considerable revenue from the sale of skunk furs. The pheasant study has not yet indicated the need for any widespread control of these fur-bearers.

At least 11 other predatory species caused the failure of 1 or more nests each. These losses are summarized in table 4.

The agencies responsible for the failure of 22 nests could not be determined. The cause

of the destruction of these nests was classified as either unexplained or unknown predator.

It might be noted that opossums (*Didelphis virginiana*), notorious egg-eaters, were present in the region where this study was carried on. These marsupials either crush and munch up the shells or gulp the eggs down—shell and all. As they leave so little evidence at the nest, opossum damage is difficult to identify. It is conceivable that some of the nests listed under unexplained or unknown predator losses may have been the work of this animal.

Pheasants themselves sometimes abandoned nests for no apparent reason, although it was suspected that in some cases the sites were unsuitable. Thirteen nests were abandoned during the course of this study.

Fortunately for the perpetuation of the ringneck pheasant, the female of this species will—if her first nest is destroyed—lay a second clutch and attempt to hatch it. The writer believes that they may even try a third time in the event of previous failures. Thus, despite the fact that more than three-quarters of the nests were failures, between 50 and 60 percent of the hen pheasants eventually succeeded in bringing off broods. The successful second or third attempts, however, did not produce so large broods as did successful first attempts.

Summary

The average number of eggs in a clutch was 10.8. Twenty and three-tenths percent

of all nests were successful. Activities of man were responsible for 56.6 percent of the nest failures. At least 11 species of predators were responsible for 30.6 percent of the nest failures. Miscellaneous causes of nest destruction accounted for 12.8 percent of the nest failures.

The clutches became smaller as the season advanced. Thus, any management practices favoring the first nesting attempts would mean more birds. If the first mowing operations could be delayed several days after June 20 without injury to the crops, many more birds would be produced. The development of a satisfactory flushing bar for high-speed mowing machines would save many nesting birds.

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STATE GAME LANDS

« « « Their Size and Location

SERIAL No. OF LANDS	COUNTY	ACRE- AGE	NEAREST TOWNS
12	Bradford	21,826	Wheelerville, LeRoy, Laquin, Canton
13	Sullivan	35,542	Central, Muncy Valley, Laporte
14	Cameron	13,510	Saint Marys, Emporium
24	Forest, Clarion	8,300	Fryburg, Leeper, Newmansville
25	Elk	6,302	Johnsonburg, Wilcox
26	Bedford, Blair, Cambria	9,110	Pavia, Portage
28	Elk, Forest	9,143	Hallton, Ridgway
29	Warren	8,719	Warren, Clarendon
30	McKean	11,572	Emporium, Betula
31	Jefferson	3,901	Reynoldsville, Anita, Frostburg
33	Centre	11,910	Philipsburg, Sandy Ridge, Port Matilda
34	Clearfield, Elk	8,800	Medix Run, Karthaus
35	Susquehanna	6,944	Hallstead, Hickory Grove, Great Bend
36	Bradford	12,118	Powell, New Albany, Overton
37	Tioga	6,448	Tioga, Mansfield, Hammond
38	Monroe	4,879	Tannersville, Long Pond, McMichaels
39	Venango	7,552	Franklin, Raymilton, Pearl
40	Carbon	2,164	White Haven, Hickory Run, Blakeslee Corners
41	Bedford	1,563	Bakers Summit, Maria
42	Westmoreland	7,701	Johnstown, New Florence, Seward
43	Chester, Berks	1,123	Warwick, Knauertown
44	Elk, Jefferson	24,074	Brockway, Ridgway, Portland Mills
45	Venango	3,189	Kossuth, Van
46	Lancaster	1,760	Schaefferstown, Brickerville
47	Venango	2,060	Oil City, President
48	Bedford	6,326	Hyndman, Madley
49	Bedford, Fulton	3,314	Amaranth, Robinsonville, Inglesmith
50	Somerset	3,164	Somerset, Rockwood
51	Fayette	7,668	Dunbar, Connellsville, Uniontown
52	Lancaster, Berks	1,470	Churchtown, Bowmansville, Plowville
53	Fulton	4,552	McConnellsburg, Webster Mills
54	Jefferson, Elk	20,507	Brockway, Warsaw, Munderf
55	Columbia	2,056	Berwick, Orangeville, Jonestown
56	Bucks	1,518	Ferndale, Upper Black Eddy
57	Wyoming	29,891	Ricketts, Forkston, Noxen
58	Columbia	9,173	Bloomsburg, Mainville, Catawissa
59	Potter, McKean	6,656	Roulette, Burtville, Port Allegheny
60	Centre	4,028	Tyrone, Morann, Houtzdale
61	McKean	8,142	East Smethport, Port Allegany
62	McKean	521	Smethport, Mount Jewett, Kasson
63	Clarion	2,770	Shippville, Knox
64	Potter	5,916	Galeton, West Pike
65	Fulton	3,666	Crystal Springs, Breezewood, Emmaville
66	Sullivan	4,588	Lopez, Bernice, Mildred
67	Huntingdon	1,850	Broad Top City, Coahont, Trough Creek
68	Lycoming	3,006	Slate Run, Cedar Run
69	Crawford	2,581	Guys Mills, Townville
70	Wayne	2,943	Starrucca, Melrose
71	Huntingdon	4,779	Mount Union, Mapleton
72	Clarion	2,019	Clarion, Miola
73	Bedford	14,977	Loysburg, Saxton, Yellow Springs
74	Clarion, Jefferson	6,043	Strattanville, Corsica, Clarion
75	Lycoming	23,708	English Center, Steam Valley, Whitepine
76	Franklin	3,813	Upper Strasburg, Roxbury
77	Clearfield	3,038	DuBois, Falls Creek, Brockway
78	Clearfield	721	Drain Lick, Kylertown
79	Cambria	2,158	Twin Rocks, Vintondale, Belsano
80	Lebanon, Berks, Schuyl.	5,070	Fredericksburg, Lickdale
81	Huntingdon	2,302	Maddensville, Three Springs
82	Somerset	1,284	Fairhope, Meyersdale
83	York	761	York Furnace, Airville, Chanceford
84	Northumberland	5,147	Shamokin, Line Mountain, Owen City
85	Crawford	872	Cambridge Springs, Lincolnville
86	Warren	11,670	Tidioute, Irvine, Pittsfield
87	Clearfield	1,124	McGees Mills, Grampian
88	Perry	6,431	Ickesburg, Walsingham, Saville
89	Clinton	10,571	Farrandsville, Haneyville
90	Clearfield	2,740	Goshen, Clearfield
91	Lackawanna, Luzerne	8,256	Pittston, Dupont, Bear Creek
92	Centre	2,475	Howard, Milesburg
93	Clearfield	4,717	Sabula, Anderson Creek, DuBois

SERIAL No. OF LANDS	COUNTY	ACRE- AGE	NEAREST TOWNS
94	Clearfield	1,008	Shawville, Surveyor
95	Butler	1,747	Annandale, Murrinsville, Cherry Valley
96	Venango	3,280	Wallaceville, Bradletown, Cherry Tree
97	Bedford	5,497	Everett, Rainsburg
98	Clearfield	1,180	West Decatur, Wallacetown
99	Huntingdon	1,888	Saltillo, Three Springs
100	Centre	3,776	Moshannon, Pine Glen, Karthaus
101	Erie, Crawford	1,521	Tracy, Beaver Center, Albion
102	Erie	278	Union City, Wattsburg
103	Centre	1,031	Uniontown, Gum Stump
104	Bedford, Somerset	3,034	Hyndman, West End
105	Armstrong	1,303	East Brady, Bradys Bend, Kaylor
106	Berks, Schuylkill	1,706	New Ringgold, Eckville, Wanamakers
107	Juniata, Mifflin	3,630	Mifflintown, Lewistown
108	Cambria	4,256	Patton, Fallen Timber
109	Erie	951	Waterford, Godard
110	Schuylkill	5,924	Hamburg, Summit Station, Shartlesville
111	Somerset	6,429	Confluence, Ohiopyle
112	Huntingdon	1,027	Huntingdon, Union Church
113	Mifflin	534	Strodes Mills, McVeytown
114	Lycoming	2,311	Brookside, Whitepine, Salladasburg
115	Northumberland, Mont.	1,134	Danville, Mooresburg
116	Pike	1,678	Shohola, Greeley
117	Washington	2,310	Burgettstown, Florence, Bavington
118	Huntingdon	457	Williamsburg, McConnellstown
119	Luzerne	3,510	Bear Creek, White Haven
120	Clearfield	3,081	McPherron, Westover
121	Huntingdon	444	Eagle Foundry, Broad Top City
122	Crawford	797	Hydetown, Tryonville
123	Bradford	721	Snedekerville, Gillett
124	Franklin, Fulton	5,385	McConnellsburg, Dickeys Mountain
125	Lycoming	742	Trout Run, Steam Valley, Ralston
126	Lycoming	592	Williamsport, Duboisville
127	Monroe	2,955	Gouldsboro, Tobyhanna
128	Fulton	1,527	Amaranth, Warfordsburg
129	Carbon, Monroe	2,705	Albrightsville, Mecksville
130	Mercer	846	Sandy Lake, Perrine Corner, Henderson
131	Huntingdon	187	Union Furnace, Spruce Creek
132	Schuylkill	1,247	Hegins, Valley View
133	Lycoming	2,008	Trout Run, Fields Station
134	Lycoming	1,568	Proctor, Hills Grove
135	Lackawanna	1,140	Gouldsboro, Stoddartsville
136	Lancaster	91	Quarryville, Mechanics Grove
137	Armstrong	1,114	New Bethlehem, Distant
138	Fayette	2,418	Fairchance, Haydentown
139	Bucks	159	Quakertown, Perkase
140	Susquehanna	304	Friendsville, Middletown Center
141	Carbon	1,099	Christmans
142	Bradford	278	New Albany
143	Warren	4,509	Garland, Pittsfield
144	Crawford	256	Spartansburg
145	Lebanon	2,207	Mount Gretna, Colebrook
146	Crawford	496	New Richmond
147	Blair	3,385	Roaring Springs, Martinsburg
148	Lawrence	264	Koppel
149	Luzerne	429	White Haven, Lehigh Tannery
150	Lawrence	182	Pulaski
151	Lawrence	181	Plaingrove
152	Crawford	350	Crossingville
153	Indiana	783	Bolivar
154	Erie	690	Wattsburg, Corry
155	Erie	224	Wattsburg, Phillipsville
156	Lancaster	1,986	Penryn
157	Bucks	749	Coopersburg
158	Cambria	1,515	Blandburg
159	Wayne	7,241	Dyberry
160	Schuylkill	245	Pine Grove
161	Erie	235	Waterford
162	Erie	185	Wattsburg
163	Erie	183	Colt Station
141	Bocks totalling	610,300	Acres
146	State Game Refuges totalling	58,910	acres, are located on State Game



C. C. C. workers have helped immeasurably to improve roads, and build drain culverts on State Game Lands.

Notes From the Field

"The opening day of duck season 6 Blue Geese and one Snow Goose were killed on the Pymatuning. These were the first Blue and Snow Geese that have been killed in this section that I know of."—Game Protector Burt L. Oudette, Crawford County.

The Mercer County Council, of the Pennsylvania Federation of Sportsmen's Clubs, has been conducting some splendid radio programs in the interest of Wildlife conservation each Saturday afternoon over Station WPCI at 3:45 P. M. The programs are under the direction of Dutch McIntire, Grove City, President of the Mercer County Council of Sportsmen's Clubs. Recently Mr. McIntire interviewed Burt Oudette, Game Protector in charge of the Pymatuning Waterfowl Refuge, on the classification of the different species of ducks in flight.

FOOLING THE DRUMMERS

By G. NORMAN WILKINSON, JR.

HERE is a new stunt for you who study the wiley kind of game birds. However, you had better go alone the first time you try it or you may be laughed out of your happy home.

Ever hear of imitating a drumming grouse? Well it's possible to get the old boy's goat with a little practice and a strong chest. Don't try it if you have T.B. Similar results have been obtained with balloons, beef bladders, or even pounding on the ground.

What's this nonsense all about? Just this, you can decoy a drumming grouse by drumming in reply on your own chest. Sounds foolish, but if you can take it the grouse quite often cannot. He is a smart old bird ordinarily, but when his wife and happy home are threatened by a rival he usually gets mad.

Before writing this article your author experimented with a number of different birds and the results were surprisingly similar, although the later it got in the season the less likely to get an answer. If properly done, and you are cautious, it is possible to have Mr. Grouse come out to within 10 or 15 feet of you and looking for an argument.

First you've got to know as near as possible where your drumming bird is located. Secondly, approach carefully and above all, cautiously, to where you are sure he can hear you. The closer the better if you take plenty of time so he cannot see you or get suspicious. The slightest glimpse of you or the snap of a treacherous twig and you might as well try another.

After this approach, make yourself as inconspicuous as possible and yet command a view in the bird's direction. Now you are ready to try your hand at playing Tarzan, and at this point it's a good idea to sit still for five or ten minutes. Take plenty of time. Listen carefully to the birds next drumming. You will note that his timing is peculiar. Three or four preliminary beats, a hesitation, and then he starts slowly at first, gradually speeding up until about the fifteenth or sixteenth beat he is going so fast that you lose count, and it merges into a muffled roll. This timing is often the deciding factor between your success or failure. If you take time to study it you will be well repaid.

Now wait until after one of his rolling salutes. After three or four minutes take a deep breath and throw out your manly bosom. With your fists beat the same tattoo upon your wishbone. Now sit back and keep quiet. Don't move a muscle but your eyes. After a few minutes he will usually be seen running swiftly or walking cautiously toward you. He may stop often to listen or he may

come running, but with few exceptions you can look for him on the ground.

With a little practice and a rugged constitution you may get results quicker than you expect. Sometimes you can hear him coming before catching sight of his movements. Usually he comes through in rather a sneaky manner but ready to do or die if his suspicions are confirmed. His feathers are usually slightly ruffled but the tail or ruffs are not always spread until he sees you.

On my first attempt after having this brain storm the bird was as uncertain as I was. He came through slowly and stopped often. He jumped onto the end of a white birch log 40 feet from me and walked to the end of it. Upon reaching the high end he stopped and listened intently. Hearing nothing, I think I had stopped breathing, he slowly spread tail and ruffs, lifted his crest feathers and drummed in full view of where I was caught standing in the open.

After thus obliging me he stood perfectly still, head cocked slightly and neck stretched as he listened intently. He did not move a feather for all of three minutes. Then with a lot of rubber-necking and peering about he jumped down and began walking directly toward me. At 25 feet he saw me and stopped short. I could see the suspicious glint in his eye as he looked me over. His tail spread again, ruffs and crest raised and lowered as he took a quarter circle around me. He was very suspicious by now and took advantage of every bit of cover between us. Neither did he come any closer but after standing a few minutes in some maple sprouts he started back toward his original drumming site. As he circled back, and from the time he first saw me he kept clucking to himself or at me in grouse language. The last I saw of him he had considerably widened the circle and was back near where I had first seen him.

I had been standing in the open for so long without moving that I nearly fell as I sat down in my tracks. I decided to stay a bit longer to see if my friend would drum again. I was rewarded about ten minutes later as my cocky acquaintance gave a farewell challenge from 150 feet farther down the little hollow.

The whole adventure from the time I had begun the stalk until he drummed from farther down the vale had taken exactly an hour and ten minutes. Since then I've had grouse answer in somewhat different ways but usually there is a response if I'm careful.

G. Norman Wilkinson, Jr.

THE THIRD RESPONSIBILITY

(Continued from Page 14)

studies, trapping operations, and many other items necessary to good management. The point is that both agencies work together toward a common end.

3. Much of wildlife management is human engineering, the gaining of concerted public support, which makes for adequate financing and a satisfactory piece of work. Whether it be the necessity for reduction of numbers, such as you have in the case of deer on the Allegheny National Forest in Pennsylvania, or restoration of adequate numbers and variety in the National Forests

elsewhere, the task of education faces the administrative officer. Education as to what needs to be done, why it should be done, and what results may be expected, all based on the findings of sound research, is an important part of wildlife management.

The Allegheny National Forest is a Pennsylvania institution. There are many wildlife and other management problems to be solved within it. Many of you are familiar with them. The Pennsylvania Forestry Association can and will assist in their solution whole-heartedly, I am sure.

COMMONWEALTH OF PENNSYLVANIA PENNSYLVANIA GAME COMMISSION HARRISBURG, PA.

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SAFETY ZONE SIGNS prohibiting hunting within 150 yds. of buildings will be furnished **FREE OF CHARGE** by the LANCASTER COUNTY SPORTSMEN'S ASS'N. to all farmers who cooperate by not posting the outlying portions of their lands to hunting. Signs may be obtained at following addresses:

J. A. Norris—819 Highland Ave.
R. Sullenberger—44 S. Prince St.
M. G. Dietrich—Millersville, Pa.

Shenk Brothers—32 W. King St.
Joe's—24 W. King St.
Buch's—W. King & Charlotte Sts.
Reilly Bros.—44 N. Queen St.

OBEY THE LAW » » » HELP YOUR PROTECTOR

Stop the cheater by reporting his license number! Automobile license numbers will help too!

The vast majority of Pennsylvania's hunters are real sportsmen, and observe the law. They can help themselves by reporting promptly those who violate. (Use the list below:)

DISTRICT GAME PROTECTORS

COUNTY		Phone
Adams	R. C. Anderson, 145 Buford Ave., Gettysburg	249
Allegheny	R. A. Liphart, 334 East Eleventh Ave., Homestead	1550
Armstrong	R. H. McKissick, 115 Rebecca St., Kittanning	785
Beaver	J. Bradley McGregor, 1099 Turnpike St., Beaver	1508
Bedford	John S. Dittmar, Loysburg	7
Berks	Merton J. Golden, 5 Park Ave., Pennside, Reading	4-5850
Blair	C. C. Brennecke, 1520 Twenty-first Ave., Altoona	2-6974
Bradford	Rodman C. Case, 927 Main St., Towanda	337
Bucks	S. Earl Carpenter, 41 Taylor Ave., Doylestown	1168
Butler	Troy C. Burns, N. Main St., Butler	32-100
Cambria	Elmer B. Thompson, 396 Coleman Ave., Johnstown	3591
Cameron	Maxwell N. Ostrum, 321 Third St., Emporium	4482
Carbon	W. C. Achey, 311 First St., Weatherly	4741
Centre	Thomas A. Mosier, 120 N. Spring St., Bellefonte	38
Chester	Jarvis E. McCannon, 83 South Fifth Ave., Coatesville	191
Clarion	H. J. Updegraff, Shippensburg	58-R-11
Clearfield	Frank E. Couse, 305 Cherry St., Clearfield	1354
Clinton	Miles L. Reeder, Route 1, Lock Haven	108
Columbia	M. L. Hagenbuch, 295 Penn St., Bloomsburg	692
Crawford	George W. Keppler, 255 Locust St., Meadville	1146
Cumberland	Joseph M. Foreman, 239 West South St., Carlisle	234J
Dauphin	Mark P. Motter, 4231 Elmerton Ave., Colonial Park	3-5153
Delaware	B. J. Davis, 436 East Baltimore Ave., Media	295
Elk	Edward L. Shields, Eschbach Road, St. Marys	5341
Erie	John G. Kennedy, 238 E. 22nd St., Erie	03-215
Fayette	Theodore T. Schafer, 16 Wilmington St., Uniontown	3794
Forest	Carl B. Benson, Tionesta	189
Franklin	W. W. Britton, 573 East Catherine St., Chambersburg	195
Fulton	Isaac Baumgardner, South Second St., McConnellsburg	22
Greene	John F. Blair, 465 East Greene St., Waynesburg	267
Huntingdon	Thomas F. Bell, 407 Sixteenth St., Huntingdon	158
Indiana	O. M. Pinkerton, 21 South Twelfth St., Indiana	1934
Jefferson	Lester J. Haney, Brookville	707W
Juniata	Herman W. Fisher, 611 Washington Ave., Mifflintown	176
Lackawanna	Francis E. Jenkins, Layton Road, Chinchilla	367R2
Lancaster	J. M. Haverstick, 741 College Ave., Lancaster	5540
Lawrence	Frank L. Coen, Route 5, New Castle	5211
Lebanon	Philip H. Melching, 409 Gannon St., Lebanon	681
Lehigh	William A. Moyer, 25 North Eighteenth St., Allentown	2-6739
Luzerne	Samuel K. Weigel, 75 East Bennett St., Kingston	7-5382
Lycoming	Frank F. Crosby, 1442 Memorial Ave., Williamsport	2-7313
McKean	William J. Carpenter, Main St., Mt. Jewett	Phone—Kane 2521
Mercer	George L. Norris, 434 Greenville Ave., Mercer	6
Mifflin	Ralph E. McCoy, 317 Logan St., Lewistown	2916
Monroe	Arthur N. Frantz, 75 Elk St., East Stroudsburg	1272
Montgomery	Ambrose Gerhart, 141 Central Ave., Souderton	873
Montour	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Northampton	Morris D. Stewart, 1535 Northampton St., Easton	2-2023
Northumberland	Bruce P. Yeager, 66 Queen St., Northumberland	1210
Perry	Hugh H. Groninger, New Bloomfield	80
Philadelphia	E. W. Stucke, 7806 Verree Ave., Philadelphia	Phone—Pilgrim 4813
Pike	John H. Lohmann, Hight St., Milford	240
Potter	Arthur G. Logue, 107 W. First St., Coudersport	278
Schuylkill	Leo E. Bushman, 76 Pottsville St., Cressona	Phone—Schuylkill Haven 370
Snyder	Clarence F. Walker, Beavertown	Phone—Beaver Springs 16R31
Somerset	John Spencer, 354 West Garrett St., Somerset	139
Sullivan	Robert Latimer, Muncy Valley	15R2
Susquehanna	William D. Denton, New Milford	Phone—Jackson 16
Tioga	L. H. Wood, 3 Eberenz St., Wellsboro	196R
Union	Fred S. Fisher, 400 Green St., Mifflinburg	Phone—Lewisburg 6257
Venango	William T. Campbell, 523 Liberty St., Franklin	1107
Warren	Lawrence E. Linder, 105 Monroe St., Warren	1689
Washington	Carl C. Stainbrook, 52 Harrison St., Washington	566
Wayne	Maynard R. Miller, 30 Stanton St., Honesdale	676
Westmoreland	R. D. Reed, 1610 Ligonier St., Latrobe	1140W
Wyoming	Ralph E. Flaugh, 103½ Warren St., Tunkhannock	2671
York	A. C. Ganster, 520 Girard Ave., York	7434

Space does not permit listing the Game Protectors on special assignment, those in charge of Land Management, and the large corps of Deputy Game Protectors.

**"Don't Forget to Send in
Your Game Kill
Report"**

PENNSYLVANIA GAME NEWS



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WINTER PROBLEM

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Cover by
Federal Arts WPA.



THE 1939 SEASON

ANOTHER hunting season has passed; a new year has begun.

Due to improved working conditions, the number of hunters afield at the beginning of the small game season was considerably smaller than usual. The morale among them generally appeared to be much better than in previous years; and a far more friendly relationship between sportsmen and landowners was noticeable everywhere. Best of all, however, was the decrease in small game hunting accidents. However, this fine record was later marred by the careless deer hunters.

Although it is too early to estimate the small game harvest during the recent season, in all likelihood it will measure up surprisingly well when all the information has been assembled by tabulating the game-kill reports. Then, and then only, will anyone know whether the season was a success or not. These reports were coming to the offices of the Commission by the thousands daily as this magazine went to press.

Many Conflicting Reports

Hunters reported that in their opinion certain species of game, especially rabbits and ring-necks, were not as abundant as expected from the number of birds and animals observed during the summer, and that apparently there had been a considerable shrinkage during the early fall months.

Weather conditions just ahead of the 1939 small game season undoubtedly affected the kill at the beginning of the season. The birds and animals were not in the places where ordinarily the hunters expected to find them.

Preliminary reports from sportsmen who hunted in the same identical sections are so conflicting as to be utterly useless from an analytical standpoint, and the only safe way is to depend upon the tabulation of the individual reports from all the hunters.

Those who measure the success of their hunting trips only by the game killed are most unfortunate, indeed. There is much more to a hunting trip than the game one brings home. Reports from neighboring states also indicate that their hunters were disappointed with their pheasant and rabbit crops. Our neighboring states are doing as we are in Pennsylvania; namely, trying to learn what the facts were.

Bear Season Good

Although complete figures are not yet available, early reports indicate a larger kill of black bears than expected. It is quite obvious that bear hunting is becoming a sport all its own, and that many hunters prefer to tackle the hardest kind of hunting available. Fortunately during the bear season there were no hunting accidents, an improvement over the year before.

Prior to the period when the bear season was separated from the deer season, bear hunting was always a secondary sport. In that period the man who bagged a bear was rarely actually hunting bears. Now that the seasons are separate, and bear hunting is becoming increasingly popular as a separate sport, the problem of perpetuating the bear supply becomes a real one for the Commission. Numerous bear hunters have already expressed sentiment in favor of no season on bears in 1940, which the Commission will weigh carefully. Over-zealous hunters killed far too many cubs during the recent season.

Deer Season Unfavorable

Due largely to poor weather conditions, and not a scarcity of deer, the 1939 deer season was rather disappointing to many hunters. The first few days failed to produce anything like the number of deer expected; early reports indicate, however, that plenty of fine bucks were taken.

Field observations indicate that the method of hunting deer, except among old established camps, has changed considerably. Too many deer hunters try to kill a legal deer as quickly as possible, regardless of its size. Very few of them hunt as hard as they did in former years. As one well-known sportsman put it at the end of the first day, "We didn't earn a deer today". Many hunters seem to have become lazy, and spend their time just watching or slowly cruising in their cars, hoping to benefit from the efforts of those who are "earning" their deer.

Taken by and large, however, many sections of the State yielded a fine harvest, and reports from capable observers indicate that the deer killed in 1939 averaged anywhere from ten to fourteen pounds heavier than those killed during the buck season two years previous. Where food conditions were favorable, the consensus of opinion is that the racks were considerably larger.

There seemed to be no heavy concentrations of deer hunters in any particular section, which should have resulted in fewer accidents. However, early indications are that the deer hunting accidents for 1939 will exceed the figures of the two previous years. This simply proves that unless everyone constantly endeavors to avoid accidents, the Commission's campaign to make the woods safer for all will not succeed.

The job now for every hunter is to mail his game-kill report, then provide food for the stock left over so that in future years we may enjoy good hunting. Certainly if the future supply is always as good as it was during the past season, we shall be most fortunate, indeed.



THE TRAPPER



by

N. R. CASILLO

It Happened at Night

NOWADAYS the majority of outdoor magazines are filled with things that the average person like myself can only dream of doing. Of course, we all like to read of the adventures and unusual experiences of those who frequent faraway places, yet, just as eagerly we like to read about those things with which we are more or less familiar, nearer home and more readily accessible to the average outdoorsman.

If we who live in the more heavily populated states must fish for hatchery raised trout and shoot hand reared birds and rabbits, then, we should not be adverse to studying or observing the life of those creatures that are near at hand. Indeed, many of the lesser forms may be found in our very backyards. In fact it's a wise householder who knows what may actually be going on under his back porch.

Most any one can read the signs the morning after. The depredations of the rabbits on the painted daisies or tulips; the devious tunnel of the hunting mole or signs of the night-hunting birds. Yes, signs that the most inexperienced can read. However, it is difficult for the average person to realize how much actually goes on particularly if there is a garden with shrubbery and trees. If I were to suggest that you could learn much by carefully observing the urban nocturnal prowlers, both furred and feathered, you would probably sniff: "The man is crazy—another one of those Nature nuts." Nevertheless I'm going to describe a few incidents that took place within the limits of a stone's toss of my kitchen door.

Some years ago I kept rabbits in a number of open-top pens. For some months they thrived and multiplied as rabbits will and then they began disappearing. That they

were being carried off was obvious because it was impossible for them to get out. Cats, weasels and skunks were suggested and as quickly dismissed as suspects because they would leave some sign. A winged predator wasn't dreamed of, because at the time we were living scarcely a block from the very heart of the city's business section. And what nocturnal winged prowler was audacious enough to come that close?

When nearly a dozen rabbits had disappeared I decided to take drastic measures. So one night I posted myself in the darkest part of the yard nearest the pens and attempt to solve the mystery of the missing rabbits. I might add that I was armed with an old 12 gauge shotgun which I reckoned would rout the entire night duty police force should I chance to discharge it.

After a terrific struggle with Morpheus I managed to remain awake until two o'clock. Fifteen minutes or so later I awakened with a start. Instinctively my eyes flashed over to the pens, and although I couldn't swear to it, I thought I saw the momentary flash of a couple of orbs as some creature slid off of the fence adjacent the pens.

An examination of the pens at dawn disclosed the loss of another rabbit, a half-grown Belgian hare. This time there were signs. A short length of intestine and a small splash of blood were on the floor of the pen nearest my hiding place. The boldness of the creature was unbelievable. It had caught, dispatched and eaten its prey less than twenty feet from where I crouched, more or less alert.

A night or two later a couple of pals and I were returning home after a cat hunt (domestic), when I chanced to glance at the

fence separating the rabbit pens from the street. Perched on the fence was a form that I knew was not a cat although it was fully as large.

"A great horned owl!" exclaimed one of the boys in amazement as the great bird floated off on wings of down.

And thus the mysterious disappearance of the rabbits was accounted for. But those who heard of it were loathe to believe it until proof was presented. A few nights later I caught the predator by setting a couple of traps atop the fence. Obviously the easy hunting had attracted the bird and kept it there. Naturally I was the loser, yet, I was thrilled at the knowledge that so savage a bird would come so close to the crowded habitations of man.

Just a few nights ago I was awakened by the savage growling of our toy fox terrier. Then, through the open bedroom window came the most unearthly combination of squeals and screeches that I've ever heard. I jumped from bed and padded down to the kitchen armed with a flashlight. A night or so before I had set a couple of steel traps under the porch where I had spied a gigantic rat. As I went to the door I pictured all sorts of dire calamities. Suppose I had caught one of the two or three cats that prowl the neighborhood? And if the sounds I had heard emanated from a trapped rat, then, it wasn't a flashlight that I needed, but a high power rifle. Another screech interrupted my thoughts. This time there was no mistaking it. It was a cat alright. So I passed on into the night with the bristling dog at my heels.

The light disclosed nothing under the porch. The traps were unsprung. Then, I

(Continued on Page 30)

FALL FOODS OF THE RUFFED GROUSE IN PENNSYLVANIA*

By TRACY M. KUHN

ARRANGEMENTS were made with game protectors and hunters of Pennsylvania, before the hunting season of 1938, to obtain the crops of ringneck pheasants (*Phasianus colchicus torquatus*) and bobwhites (*Colinus virginianus virginianus*) taken during the open season on these species. These crops were to be sent to the Pennsylvania Cooperative Wildlife Research Unit for analysis to determine the preferred foods of these birds. The information thus obtained might be used as a guide to the plant species most important in the management of these birds.

As a result of these arrangements, 61 quail and 423 pheasant crops were sent to the Unit. The analysis of the quail and ringneck pheasant crops was reported by Dr. Logan J. Bennett and Dr. P. F. English in the April 1939 issue of the *Pennsylvania Game News*. In addition, 242 grouse (*Bonasa umbellus umbellus*) crops arrived from more than half of the counties in Pennsylvania (table 1), indicating that a number of sportsmen were

and Entomology, The Pennsylvania State College. Acknowledgments are due to Dr. Clarence Cottam of the U. S. Bureau of Biological Survey and Dr. Herbert Wahl of the Department of Botany, The Pennsylvania State College, who rendered valuable assistance in identifying fragmentary plant specimens.

Method of Analysis

Each crop was opened, and the various items were separated according to species, after which the number of countable items and the volume of each species were recorded on crop analysis cards. Volume was determined, except in the case of oak acorns, on dry material compressed to a relatively solid mass in a glass graduate. Acorns were measured by the water displacement method because of their size and shape.

Results of Analysis

Of the 242 crops analyzed, 10 crops were empty; and 2 crops were taken during the

early spring months, so that they were not suitable for this study. The 230 crops upon which this article is based contained a total of 1,200 items, made up of 70 known vegetable foods, animal matter, gravel, and unknown plant material. The average crop contained 5.2 different foods and had a volume of 8.3 cubic centimeters. The various food combinations are tabulated in table 2. The most frequent combination was that of leaves and woody material, a combination found in more than one-third of the crops. Figure 1 shows the contents of a grouse crop that contained 16 species of plant material. Table 3 shows the foods and parts listed by species, the frequency of their occurrence, and the volume they represented. Cherry buds and twigs, sheep sorrel leaves, oak acorns, and aspen buds led in importance, with a combined volume of more than one-third of the total food eaten. A second basis of evaluating importance, that is, frequency of occurrence, would place sheep sorrel

TABLE 1.—Origin of grouse crops

County	Number of crops analyzed
Armstrong	1
Blair	1
Bradford	5
Cameron	3
Carbon	7
Centre	12
Clarion	1
Clearfield	17
Clinton	1
Columbia	1
Dauphin	1
Elk	22
Forest	27
Fulton	1
Greene	2
Huntingdon	1
Indiana	7
Jefferson	22
Lackawanna	1
Lehigh	2
Lycoming	20
McKean	22
Mifflin	1
Monroe	5
Perry	1
Pike	1
Potter	3
Sullivan	11
Susquehanna	4
Tioga	8
Venango	1
Warren	9
Westmoreland	6
Wyoming	3
TOTAL	230

interested in the food habits of this bird as well as in the foods utilized by pheasants and quail.

After the necessary collection of reference material had been made, analysis of the grouse crops was begun on February 9, 1939, and was completed on September 14, 1939. This work was done under the supervision of Dr. Logan J. Bennett, Biologist, U. S. Bureau of Biological Survey; Dr. W. C. Bramble, Assistant Professor, Department of Forestry, The Pennsylvania State College; and Dr. P. F. English, Associate Professor of Wildlife Management, Department of Zoology

TABLE 2.—Food combinations (Based on examination of 230 crops)

Food combinations	Percent of crops represented
All leaves	17.4
All fruit or seeds	5.2
All buds, twigs, or other woody material	3.5
At least some leaves, with other foods	90.4
At least some woody material, with other foods	65.2
At least some fruit or seeds, with other foods	35.2
At least some animal material, with other foods	13.9
At least some gravel with food	4.3
Leaves and woody material	34.8
Leaves and fruit or seeds	9.1
Woody material and fruit or seeds	1.3

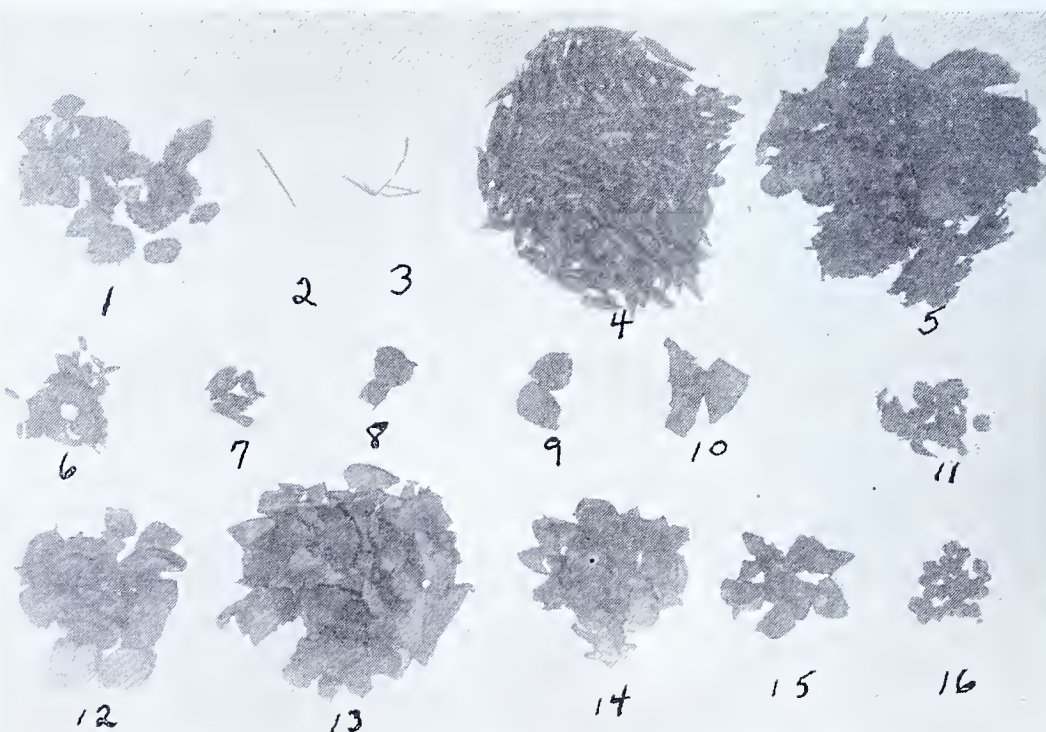


FIGURE 1.—Sixteen items in a single grouse crop: 1. strawberry; 2. white pine; 3. grass; 4. shadbush; 5. sheep sorrel; 6. bramble; 7. large-toothed aspen; 8. fern; 9. aster; 10. unknown; 11. cinquefoil; 12. fringed polygala; 13. laurel; 14. teaberry; 15. arbutus; 16. sumac.

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TABLE 3.—Foods found in 230 grouse crops, showing frequency, volume taken, and the parts used.

Species	Crops in which found	Percent of total food volume	Parts used
Cherry (<i>Prunus</i> spp., chiefly <i>P. serotina</i>)....	52	11.61	Twigs, buds, and leaves
Sheep sorrel (<i>Rumex acetosella</i>)	103	11.45	Leaves
Oak (<i>Quercus</i> spp.)	29	9.06	Acorns and buds
Aspen (<i>Populus</i> spp., chiefly <i>P. grandidentata</i>)	31	6.43	Twigs and buds
Briar (<i>Smilax</i> spp.)	3	4.84	Fruit
Apple (<i>Malus malus</i>)	9	4.84	Leaves and buds
Foamflower (<i>Tiarella cordifolia</i>)	65	4.69	Leaves
Grape (<i>Vitis</i> spp.)	6	4.11	Fruit
Shadbush (<i>Amelanchier canadensis</i>)	25	3.96	Buds and twigs
Barren strawberry (<i>Waldsteinia fragarioides</i>)	20	3.83	Leaves
Birch (<i>Betula</i> spp.)	19	3.38	Buds
Hophornbeam (<i>Ostrya virginiana</i>)	27	3.23	Catkins, buds, and twigs
Blueberry and huckleberry (<i>Vaccinium</i> spp. and <i>Gaylussacia</i> spp.)	22	2.71	Buds and twigs
Laurel (<i>Kalmia</i> spp.)	20	2.39	Buds and leaves
Bramble (<i>Rubus</i> spp.)	75	2.29	Twigs, leaves, and buds
Hazelnut (<i>Corylus</i> spp.)	10	2.03	Twigs and buds
Flowering dogwood (<i>Cornus florida</i>)	4	2.03	Fruit and buds
Wintergreen (<i>Gaultheria procumbens</i>)	18	1.77	Leaves and fruit
Fern (<i>Polypodiaceae</i>)	52	1.74	Leaves
Sumach (<i>Rhus</i> spp., chiefly <i>R. typhina</i>).....	17	1.67	Fruit
Strawberry (<i>Fragaria</i> spp.)	36	1.38	Leaves
Selfheal (<i>Prunella vulgaris</i>)	31	1.09	Leaves
Cinquefoil (<i>Potentilla</i> spp.)	33	.86	Leaves
Wood sorrel (<i>Oxalis</i> spp.)	18	.78	Leaves
Clover (<i>Trifolium</i> spp.)	18	.86	Leaves
Avens (<i>Geum</i> spp.)	19	.57	Leaves and seeds
Partridgeberry (<i>Mitchella repens</i>)	13	.55	Fruit and leaves
Viburnum (<i>Viburnum</i> spp.)	2	.52	Fruit
Skunk cabbage (<i>Symplocarpus foetidus</i>)	1	.52	Seeds
Corn (<i>Zea mays</i>)	2	.47	Seeds
Everlasting (<i>Antennaria</i> spp.)	8	.42	Leaves
Wintergreen (<i>Pyrola</i> spp.)	6	.36	Leaves
Witch-hazel (<i>Hamamelis virginiana</i>)	15	.36	Leaves, buds, and flowers
Aster (<i>Aster</i> spp.)	47	.36	Leaves
Buckwheat (<i>Fagopyrum Fagopyrum</i>)	2	.31	Seeds
Milkwort (<i>Polygala</i> spp.)	13	.26	Leaves
Miterwort (<i>Mitella diphylla</i>)	3	.21	Leaves
Chokeberry (<i>Pyrus</i> spp.)	3	.15	Buds
Insects, spiders, and snails	32	.13	Entire animal
Arbutus (<i>Epigaea repens</i>)	5	.10	Leaves
Hawkweed (<i>Hieracium</i> spp.)	16	.10	Leaves
Virginia creeper (<i>Psedera quinquefolia</i>).....	1	.10	Fruit
Maple (<i>Accr</i> spp.)	7	.05	Buds
Cohosh (<i>Actaea</i> spp.)	2	.05	Leaves
St. Johnswort (<i>Hypericum</i> spp.)	3	.05	Seeds
Speedwell (<i>Veronica</i> spp.)	9	.05	Leaves
Bush honeysuckle (<i>Diervilla Lonicera</i>)	1	.05	Buds
Grasses (<i>Gramineae</i>); Sedges (<i>Cyperaceae</i>)..	47	*	Leaves and seeds
Gravel	9	*	Gravel
Composite family (Compositae)	9	*	Leaves
Chickweed (<i>Gerastium</i> spp.)	9	*	Leaves
Hemlock (<i>Tsuga canadensis</i>)	9	*	Leaves
Yarrow (<i>Achillea</i> spp.)	7	*	Leaves
Moss (<i>Musci</i>)	5	*	Entire plants
Goldenrod (<i>Solidago</i> spp.)	5	*	Leaves
Hawthorn (<i>Crataegus</i> spp.)	3	*	Fruit and buds
Rose (<i>Rosa</i> spp.)	3	*	Leaves
Buttercup (<i>Ranunculus</i> spp.)	2	*	Leaves
Cranesbill (<i>Geranium</i> spp.)	2	*	Leaves
Oak galls	2	*	Galls
Pine (<i>Pinus</i> spp.)	2	*	Leaves
Vetch (<i>Vicia</i> spp.)	2	*	Leaves
Cat mint (<i>Nepeta</i> sp.)	1	*	Leaves
Winterberry (<i>Ilex verticillata</i>)	1	*	Fruit
Calamint (<i>Satureja</i> sp.)	1	*	Leaves
Liverleaf (<i>Hepatica</i> sp.)	1	*	Leaves
Smartweed (<i>Polygonum</i> sp.)	1	*	Seeds
Golden saxifrage (<i>Chrysosplenium</i> sp.)	1	*	Leaves
Sanicle (<i>Sanicula canadensis</i>)	1	*	Seeds
Bedstraw (<i>Galium</i> sp.)	1	*	Leaves
Saxifrage (<i>Saxifraga</i> sp.)	1	*	Leaves
Violet (<i>Viola</i> sp.)	1	*	Leaves and seeds
Wild carrot (<i>Daucus carota</i>)	1	*	Leaves
Unknown items—leaves, buds, twigs, and un- identified particles	69	.52	
*Trace.			

TABLE 4.—Animal content of crops (Based on examination of 230 crops)

Animal	Times occurring
Fireflies (<i>Lampyridae</i>)	7
Solitary wasps (<i>Ichneumonidae</i>)	7
Leaf-beetles (<i>Lina tremulae</i>)	4
Grasshoppers (<i>Locustidae</i>)	3
Walking-sticks (<i>Diapheromera femorata</i>)	2
Leaf-hoppers (<i>Cicadellidae</i>)	2
Spiders (<i>Arachnida</i>)	2
Syrphus-fly (<i>Syrphidae</i>)	1
Ladybug (<i>Coccinellidae</i>)	1
March-fly (<i>Biblio</i> sp.)	1
Unidentified animals (Snails, insect larvae and adults)	6

(Continued on Page 31)

TABLE 5.—Analyses of stomachs and crops from Bradford County

Fourteen Stomachs November 1-7, 1911		Twenty Stomachs December 1-7, 1919		Five Crops November 2-9, 1938	
Species	Percent of total volume	Species	Percent of total volume	Species	Percent of total volume
Beech (<i>Fagus grandifolia</i>)	50.9	Beech (<i>Fagus grandifolia</i>)	72.0	Sheep sorrel (<i>Rumex acetosella</i>)	41.7
Grape (<i>Vitis</i> spp.)	14.1	Hophornbeam (<i>Ostrya virginiana</i>)	10.6	Bramble (<i>Rubus</i> spp.)	41.7
Hophornbeam (<i>Ostrya virginiana</i>)	8.1	Fern (<i>Pteridophyta</i>)	5.5	Aspen (<i>Populus</i> spp.)	16.6
Aspen (<i>Populus</i> spp.)	6.9	Birch (<i>Betula</i> spp.)	4.9		
Dandelion (<i>Taraxacum officinale</i>)	3.6	Unknown fragments	1.7		



THE STARLING MENACE

JOHN M. PHILLIPS
and
JACK MINER

being in Greenwood Cemetery, Detroit. They have almost exterminated our red-headed woodpeckers in many sections.

They are also a problem in our cities, as well as in the country and woodlands, since they make buildings unsanitary and kill trees with their droppings.

Jack Miner, the noted naturalist, in his lectures shows pictures of what he claims to be over 1,000,000 starlings attracted to his bird sanctuary at Kingsville, Ont., Canada, where they not only fed on corn he supplied for his geese but their droppings destroyed his beautiful grove of pines. They also chased off his martins and other birds. With a large net and the aid of some Italians, he caught 300,000 starlings in one year which were used for food.

Many people claim the starling is necessary to control the Japanese beetle but practically all our insectivorous birds and domestic fowls and even our imported English pheasant and sparrows feed on them as they are apparently a delicious morsel.

John W. Hershey, the noted nurseryman of Dowingtown, Pa., makes the following statement: "I control the Japanese beetles with a large flock of Muscovy ducks and make a profit out of what others call a pest."

The Japanese beetle was discovered in this country in 1916 and has infested about 10,000 square miles in our Eastern states, New Jersey being the center of infestation. In Japan, on account of the beetle being controlled by native parasites, it does not cause serious injury to crops. Our Department of Agriculture has imported many of these parasites and in Circular 332, December, 1934, states: "Two parasitic wasps of the genus *Tiphia*, introduced into the United States from Japan and (Chosen) Korea, respectively, and now well established in many local colonies throughout the heavily infested area, should in future years serve as a check

THE first starlings (*Sturnus vulgaris*) were imported into this country from Europe in 1890. This importation was finally prohibited by the Lacey Act in 1900.

The starlings' numbers more than double every year since they raise two broods of from three to six each year. Before they became accustomed to our climate, many were killed by our severe winters. Now they are learning to migrate to the South and this will have a tendency to increase their numbers. Already millions of starlings spread from our East coast to the Rocky Mountains and from Canada to the Gulf.

This multiplication would not have become a national problem if the starling had not acquired bad habits on American soil.

According to the 1931 Farmers' Bulletin No. 1571, United States Department of Agriculture, "The Starling's aggressions against

native hole-nesting species and its depredations on cherries, apples, corn and garden truck, along with its objectionable roosting habits, have been cited as ample reasons for condemnation of the species. The starling's hole-nesting habits have placed it in intimate contact and frequently in actual competition with native birds of similar habits. This has resulted not only in their usurping the nest sites but in some instances in destroying the eggs and killing the young of native birds. Bluebirds and flickers have suffered most from the starling, but martins, house wrens, robins, English Sparrows and a few other wild species, as well as domestic pigeons, are molested in their nesting operations."

Starlings have even mobbed and driven our grey and fox squirrels out of their holes and taken possession of them—one instance

on beetle abundance. These small wasps deposit eggs on beetle larvae, and the parasite larvae hatching from these eggs suck the body fluids from beetle larvae and eventually entirely consume them."

The Biological Survey has made many experiments for control of the starling, among others gassing, trapping and shooting but concludes that shooting is the most effective method. For those who prefer trapping, the survey will furnish plans and specifications for traps.

At the meeting of the American Wildlife Institute, February 13, 1939, in Detroit, the Starling Luncheon Club was formed with Jack Miner, conservationist, as president; Edward K. Love, conservationist, St. Louis, as vice-president and purveyor of recipes for cooking starlings, and John Mock, president of the Outdoor Writers Association of America, as treasurer, and Dave Roberts, outdoor writer, Cincinnati Inquirer, as secretary.

Many nationally known conservationists and bird-lovers at the meeting joined the organization, among others:

Former United States Senator Frederick C. Walcott, President of the American Wildlife Institute.

J. N. (Ding) Darling, President of the National Wildlife Federation and former chief of the United States Biological Survey.

John H. Baker, President of the National Association of Audubon Societies.

T. Gilbert Pearson, President Emeritus, National Audubon Society.

Hoyes Lloyd, Ottawa, Canada.

E. Lee Lecompte, State Game Warden of Maryland.

Dr. A. A. Allen, Cornell University.

Seth Gordon, Executive Director, Game Commission of Pennsylvania.

All the members of the Outdoor Writers Association of America present also joined.

The organization's purpose is to control the starling by popularizing it as a food. Our beautiful song and insectivorous bird, the bobolink, a much smaller bird than the starling, is killed and sold in our markets along the Eastern coast during its migration to South America. Under the name of reed bird, it appears on dinner tables as an expensive and delicious delicacy. Few, however, seem to consider the starling as a food.

Yet the starling is about the size of a robin, and feeding on practically the same food as the bobolink, is equally delicious when cooked in the same ways.

Why not make the starling a game bird with no limit on it and thus not only provide food for our people but control a pest and save our native birds?

Jack Miner's Account

YES, it's the bird we call the English Starling. Now, readers, I want to draw near to one and all and say from the bottom of my heart that it is not my intention to be insulting to any nationality. For Canadians to always call the European Sparrow the English Sparrow and the Starling the English Starling is thoughtlessly unmannerly on our part.

Let us keep in mind we are part of the British Empire and these two undesirable

species of birds are not a bit more English than they are French, German or Italian. They are imported European undesirable birds, that's all. Moreover, only the dread of seasickness prevents me from going to England to see dear old Leicestershire, the birthplace of my parents who praised that spot, next to Heaven. So, in speaking of the starling let us leave off its nationality altogether and call it just starling.

While I had seen thousands of them in Southeastern Pennsylvania and the New England States, I had not seen one in Canada until 1924. In January, 1925, three came to our sanctuary, and to tell the whole truth I rather welcomed them; but in 1927 and 1928 they began to wear out their welcome for they ate up all the bob-white quail food I had hanging about the premises. In 1929 and 1930 they drove out the five to ten thousand purple martins that roosted here in late July and August. Think of it, readers, I had over 100 occupied mourning doves' nests on less than one acre and these birds are driving them out. They have driven out over ninety percent of our beautiful red-headed woodpeckers in this locality. In every part of America they are occupying the woodpeckers' cavities in trees. Remember, we have never allowed a starling to nest on our premises.

In July, 1931, we declared war on them and built a starling net or trap, and by September first we had caught, drowned and buried over 17,000; but bless your life there were a million came to their funeral. Then the Italians of Windsor came down with a net and under our supervision they caught, smothered and trucked to Windsor approximately 300,000. These were used to feed the hungry. In February our men hauled out of this starling roost nearly fifty wagon loads of pine needles and starling droppings. To clean it thoroughly they had to take about two of the four inches of pine needles out with the manure. This left the other two

inches of needles quite clean. Two weeks later there were at least five bushels to the acre of yellow, undigested shelled corn lying on the ground. A portion of this corn was dropped where my son's chickens got and ate it, and over 100 of his John S. Martain strain of White Wyandottes died before we could check this deathly disease.

These starlings are eatable. My sister scalded and cleaned 24 in less than an hour. I took these 24 dressed starlings to Kingsville and weighed them on two different scales and the 24 weighed exactly three pounds. She then made a real English black-bird pie of them, and the only cheerful part of my story is they were fit to set before the King, that is if the King got there ahead of me. The fact is, if properly cooked, they are a treat on the table and that is one point of hope of controlling them.

My reason for not reporting them sooner is that I wanted to be absolutely sure of what I was talking about. Now, between two and three thousand of my choice white and Scotch pines are dead, dead, dead; killed by the slimy, poisonous droppings of the starlings, and now this beautiful nature's cathedral that I planned and planted in 1914 is a sight to look at. Yes, that lovely green canopy overhead and carpeted with fully four inches of pine needles below where less than a year ago not a weed could be seen is now grown up with about all varieties of common weeds mentionable—weeds from four to seven feet high grown from seeds carried there by these destructive starlings. I will not attempt to give the names of the different weeds, but I will endeavor to get Dr. John Dearness, of London or Professor Lawson Caesar, of Guelph, to give the scientific names, then I will report them. All I will vouch for right now is that all these weed seeds were carried here by the starlings.

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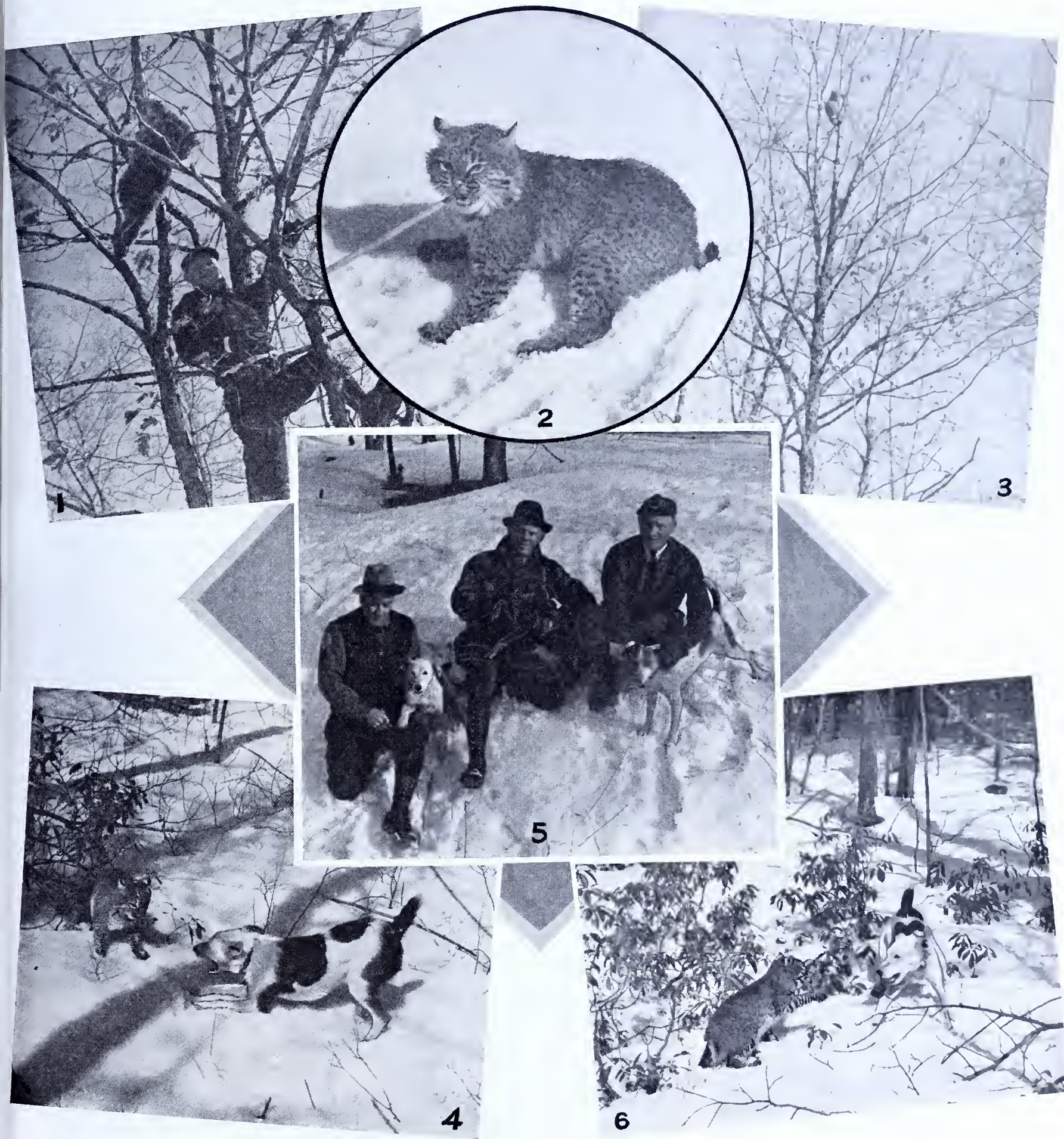
A Trapping Story in Pictures



Every year thousands of young boys, mostly farmer lads, in Pennsylvania, run trapping lines during the seasonal months of the year. Quite a few of them get a right smart bit of pocket money for their efforts. Figure 1—One of these lads is shown setting a trap for a muskrat. Figure 2 shows his reward. Figure 3—No luck at that set. Figure 4—The morning's catch. Figure 5—The animals are skinned and the pelts stretched on drying boards, after which the fat is carefully removed. The next trip will be to the local fur dealer.

A WILDCAT HUNT

Capturing a Wildcat Alive for Educational Purposes



Last winter the Game Commission needed a live bobcat for educational purposes, so Division Game Supervisor John B. Ross, Traveling Game Protector Clyde Laubaugh, and Fish Warden John Cross decided to stir one up through the use of dogs. The Game Commission photographer was on hand and took both color pictures and snap shots of the event, a few highlights of which are above portrayed. Figure 1—The cat is freed and to Warden Cross falls the lot of pulling it down. Figure 2—With collar and rope attached his majesty is as good as "In the bag". Figure 3—The little scrapper loses no time in hitting the top-most branches. Figure 4-6—The brave creature holds its own against all comers. Figure 5—Party and dogs.

Some Effects of Heavy Deer Concentrations on Plant Growth in the Allegheny National Forest

By Randall McCain*

THE inter-relationship of renewable natural resources is becoming more apparent as various problems arise concerning them. For example, the existence of our streams and rivers is dependent upon precipitation, but the character of these streams, whether intermittent or flooded, clear or turbid, depends largely upon the type and condition of the vegetative cover. In a like manner, the existence of our deer herd depends upon its reproductive capacity, but the size and condition of the herd are controlled by several environmental factors. Their primary controlling factor is the type and condition of the vegetative cover that shelters and feeds them.

Abundant food and cover, together with strict protection has produced a virtual flood of deer in the section of Pennsylvania where Allegheny National Forest is situated. The great abundance of deer browse during the past decade is attributed to extensive logging operations. The highly significant matter of type of vegetation that favored deer is due to the regeneration of hardwood species when the virgin pine and hemlock were removed.

Like the flooding river, the uncontrolled increase in the deer population has great potentialities for destruction. In nearly all sections the deer herd exceeded the capacity of the food supply before it was generally perceived. Even today, many sportsmen fail to recognize the unmistakable signs of over-browsing. The resultant over-grazing has reduced the winter forage to a small fraction of its former abundance and is being followed by a sharp decline in the deer population in certain areas, and for that matter, a decline in all game species.

The damaging effects of heavy browsing within the National Forest were noted first on pine plantations as early as 1930 and in 1931 several plantings were examined to determine the extent of browsing. These findings indicated a need for determining the effects of continued cropping by deer.

During the winter of 1935 two areas of five acres each were enclosed with stock fence to a height of 10 feet. These areas are located within the large burned-over section in Highland Township, Elk County, Pennsylvania. The two areas are approximately a mile apart, but are similar in every respect. Two areas were used to serve as a check on the results obtained from each.

During the April planting season, young trees of both red pine and Norway spruce were planted in alternate rows of 6x6 spacing, both inside and outside the enclosure, making a plantation of 30 acres in all. Twenty acres were unprotected and subject to deer browsing. The deer population was known to be large and a nearby game drive area has served as an indicator of the amount of

use to which the plantings were subjected. The December population was recorded as follows for these areas: 1935, 34 acres per deer; 1936, 11 acres per deer; 1937, 7 acres per deer; 1938, 8 acres per deer.

Twelve hundred of the planted trees were marked by stakes for record purposes and seventeen examinations were made of these during the past five-year period. These examinations have brought to light some very interesting facts. 91% of the pine trees and 36% of the spruce trees are dead on the twenty acres not fenced. By way of contrast, 11% of the pines and 20% of the spruce are dead from frost and other causes inside the fences. Perhaps the greatest difference is shown in the condition of the trees. The average height of the unfenced pine is 4.6 inches and for spruce 6.6 inches. (Measurements taken on May 3, 1938). The protected trees average 24 inches for pine and 20 inches for spruce. Not a single tree in the unprotected area is considered to be thrifty and continued browsing will mean the complete elimination of the planted trees. Damage occurs only in the winter months and the very concerted attack on the coniferous species probably indicates a lack of more desirable browse.

In an effort to find out if the same effects were prevailing upon the regeneration of native tree species, a stem count was made inside and outside a deer-proof enclosure in the vicinity of Marienville, in Forest County. The Forest County area was fenced early in 1936 before the growing season had begun. This area was also an old burn, quite open and heavily browsed during the winter.

An indication of the effect of continued grazing was obtained by counting the number of stems and clumps of woody plants below a height of 5 feet and comparing the results found inside and outside the fence. On the acre under fence there were nine tree species making up a total of 303 clumps and single stems. An equal area outside had only seven species with a total of 140 stems. The number of stems of ironwood was identical inside and out, but since this is a species little touched by deer, it serves as evidence that the lesser number of the other species outside was caused by over-browsing.

The shrub species comprised of willow, elderberry, dogwood, gooseberry and blackberry, exhibit even a greater difference; the number inside was 211 as against 42 outside.

As with the planted trees, however, the greatest difference was exhibited in condition, the protected plants being much more thrifty than the unprotected ones. The above data was collected in November 1938.

On August 24, 1939, a similar examination was made on and adjacent to a fenced area in Corydon Township, McKean County. Except for laurel and huckleberry, every stem was counted for woody species between one foot and five feet in height. The laurel and huckleberry were counted as clumps. This area, unlike the one near Marienville, was only moderately used at the time it was fenced in 1936. The change is not one of recovery, but of loss through excessive browsing outside the fence. Plants protected from the deer are also much more vigorous. A casual glance at the area within and with-

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Browsing was heavy on all outside areas.

*Assistant Range Examiner.

HIS MAJESTY THE RINGNECK

By ROBERT STERLING

THE first effective stocking of Ringneck Pheasants in the United States was made in the early 1880's by Judge Denny of Oregon who was then the U. S. Consul to Shanghai. He sent a number of birds from China to be released in Oregon where they seem to have thrived from the beginning. They were the Eastern Chinese Ringneck, and this variety seems to have been used almost entirely for early stocking in the western part of the country.

In the eastern states the first birds were the so-called English Ringnecks which were a cross-bred bird; the result of stocking several varieties on English Estates over a period of years.

While pheasants had been reared for hundreds of years in England, little was known of the subject on this side of the Atlantic. A few wealthy men had imported English gamekeepers to raise birds on their estates for their own shooting, but the cost kept the average man out of the game. However, a few breeders started raising pheasants as a hobby and at considerable expense of time and money, and finally began to have some success. The writer procured his first pheasants in 1924 and soon found there was very little information to be had regarding their care. The successful breeders acted as if they had some carefully guarded secret method of raising them, and more or less looked upon themselves as supermen, or at least wanted the novice to look upon them as such. We now know there were no secret formulas.

The early breeders had their troubles, however, in learning to rear them successfully. They also found that they had no market for their birds. In many states they could not lawfully sell them even for food. However, through the efforts of certain sportsmen, several states began stocking them experimentally to help out the native game

which was no longer able to hold its own against the army of hunters in the field. In the course of time the demand exceeded the supply, which led to the establishment of State Game Farms. Pheasants then had about the same standing as "Grandmother's Chickens" in regards to the type and variety. Anything with a ring around its neck was a ringneck pheasant.

Of late breeders have begun to breed their birds more to the true type as found in their native land. There are twenty odd varieties of the ringneck family in their pure wild state, and while most differences between them are of interest only to the scientist, each has certain characteristics which distinguish it from its relatives.

In Asia they range from the Black Sea to Japan, a distance of almost 5500 miles. However, there are only six varieties that are commonly found today on American game farms. The Mongolian, Chinese, Black Neck, Formosan, Japanese Versicolor, and the Melanistic Mutant. The latter originated in England and is a mutation of the true ringneck. In the writer's opinion the Mongolian is the cream of the crop; darker in color, bigger, stronger and well able to withstand our coldest winters. It sets well for the dog and loses no time in getting away when flushed. The Chinese is smaller, lighter in color and a great runner. The Black Neck is the common pheasant of England, having been introduced there by the Romans over a thousand years ago. They seem to lay better than the Chinese and are inclined to stay closer to the point where they were released. The Formosan is very light in color and has not been extensively stocked, but is a very desirable bird in captivity. They are the earliest layers of all and are of a quiet disposition. The Versicolor is green in color, and has no ring. It is very wild in captivity and even more rattlebrained than the

Chinese, flying against the pen at the least disturbance. It has not been stocked extensively if at all. The Mutant is a beautiful bird; the hens are dark brown and appear black from a distance. The cock is deep dark green with no ring. They set well for the dog and are fast flyers, but the main objection is the difficulty in distinguishing the sexes when flushed.

I believe that most sportsmen will agree that some progress has been made in improving the pheasant as a sporting bird. How often we have heard the remark that shooting pheasants was like shooting chickens. There was no sport in it. We don't hear that so much any more. Mr. Ringneck has become naturalized; he has learned how to look out for himself. There may be some objections to him, but say what we will, if it had not been for him, about the only bird shooting we would have today would be crows and starlings because our Bobwhites are barely holding their own in the face of intensive farming, stray cats, vermin, and foodless winters.

Pheasant raising is out of experiment stage, several companies are making special feeds, and modern equipment makes it possible to produce almost any number required. The same cannot be said of the Bobwhite. They are subject to so many diseases and the cost of rearing and holding them is rather greater than the private enterprise can usually stand. However, there is no great danger of their dying out, as sufficient ones are produced yearly for seed stock to keep them going.

The Ruffed Grouse present a greater problem, as they are not raised in large numbers as yet. Much experimental work remains to be done. Even though they can be produced and stocked it is a question whether they could ever be brought back to the farming sections of our state. The same is not altogether true of the wild turkey, however, which is being reared and stocked successfully. It is also a question whether the Hungarian Partridge is going to take a firm hold throughout the state. Some places they are reported as doing well, others not so good. The Chukar Partridge is a fine bird, but it is doubtful if it will succeed anywhere but in the mountainous sections, which leaves it strictly up to Mr. Ringneck to furnish us with a target and later with a very good meal.

Perhaps out of the one hundred and twenty species of pheasants known, there are a large number that could probably be stocked in our own state if they can ever be produced in numbers that would make it worthwhile. The Reeves Pheasant has been stocked, but reports on it seem to be few. It is a beautiful bird with yellow plumage edged in black and a tail three to four feet long. In central China it inhabits mountain regions. It is a slower breeder than the ringneck. It is a strong, fast flyer and will sometimes fly for miles when flushed.

Much has been said on the subject of pheasants killing rabbits. Probably certain

(Continued on Page 31)



Photo by Gordon Kriebel

Thousands of ringneck pheasants are raised on State Game Farms and released in Pennsylvania annually; others are purchased to supplement the farm-reared stock.



Jane MacMullen of Wilkensburg, Pa., and Norma Traub of Sandusky, Ohio, examining the .22 calibre rifle they used in the Junior Rifle School matches at Camp Perry, Ohio.

Keep Your Gun in Shape

By Walter D. Perry*

A great many young people today know better how to handle and take care of firearms than grownups. Many sportsmen's groups organize rifle clubs for young boys and girls, yet never try to improve their own skill and efficiency.

"GUNS, like everything else, need intelligent care. The life of most all firearms depends entirely on the care given them, rather than on the number of times they have been fired. Very few firearms have ever been 'worn out', but the number that has been 'rusted out' is legion.

"Guns are made from steel and steel is made from iron ore, plus a small percentage of other chemicals. Rust is the reverse process of making steel, that is, the chemical transition of steel back to ore from which it was made.

"When you observe a rust spot on your gun, carefully remove it. You will find that where this rust spot was, there is now a 'pit' or pockmark. A part of your gun barrel has been changed to iron ore; that part of your gun is gone; it cannot be replaced. A 'pit' in the barrel or bore of a gun is bad medicine; a number of 'pits' ruin the accuracy of the arm.

"Clean steel will rust if exposed to the atmosphere—it will rust if it comes in contact with acids, such as perspiration or residue left in the barrel from shooting, if the priming is of the old style. So the obvious thing to do is to protect the arm from these destructive agencies—not a difficult job at all, but one that must be understood and promptly done.

Inside of Gun

"When we get inside the gun we strike a more complicated procedure. The actions of firearms that are to be used during warm or mild weather may be lubricated with a good gun oil, but when they are used in weather from 20 degrees on down to sub-zero temperatures, the hunter is struck with a real problem. Ordinary lubrication, in fact, any kind of lubrication cannot be used, especially on bolt action rifles with their long firing pins. Common oil congeals to a stiffness that will not permit the firing pin to properly strike the primer, resulting in a misfire—there are plenty of deer hunters who will testify to this fact.

"The deer hunter will do well to completely dismantle his action, wash the parts thoroughly in gasoline, then use pure sperm oil and very LIGHTLY wipe the parts and reassemble. The arm will function in very severe weather if treated in this manner.

"Except for deer hunting in zero weather most all rifles and repeating shotguns can have the actions smoothed up by using a compound of oil and atomized graphite, such as "Gun Slick." The amateur will do well to take his fine double gun to a competent gunsmith for proper lubrication of the action.

"But the important phase of any firearm is its bore. The gun will shoot no better than the condition of the inside of the barrel, be it shotgun, rifle or revolver. Had Moses been a sports writer around 20 years ago he very

aptly could have written: "By the sweat of thy face shalt thou keep thy bore clean."

Outside of Gun

"We begin with the outside. The metal parts have been 'blued,' which makes them rust resisting, but not rust proof. This takes in all forms of firearms, shotguns, hand guns and rifles.

"About all that is necessary is to clean them with gasoline, and wipe the surface thoroughly with a cloth that has been saturated with a good gun oil. Winchester, Remington and Savage gun oil or Antirust are all good. Never risk 3 in 1 oil as the body is too light, and will not give proper protection. Three in one oil has many uses, but keep it off your gun. If one desires to condition a gun for laying away for an indefinite period, say from one season to another, then this outside treatment should be heavier; use a good gun grease.

"The care of the gun stock and forend, which are constructed from wood, needs a different treatment. There are two methods of finishing a stock, one is known as an oil finish, the other as a gloss finish. The oil finish is obtained by frequent applications of boiled linseed oil, which is permitted to dry, and is then rubbed down until all the pores in the wood are filled. This is a very durable finish. To brighten this up it is only necessary to give it another application of oil,

(Continued on Page 29)

*From John Mock's column in the Pittsburgh Press.

BRIAR SHY

ROBERT OSBORNE STEELE

LEM STONE pushed his feet against the railing of the porch until the legs of his chair weakened precariously and screeched a warning protest. As he settled into position his bones cracked comfortably because Lem was getting old.

"Folks spend a lot of money these days on what they call trainin' dogs," he rasped between puffs on an old briar. "'Taint necessary. In my time a dog just hunted and was plenty good enough."

Sam Slemper reclining as comfortably as he could on the top step, with his head cushioned against the soft pine rail post, nodded in solemn agreement. Sam's shoes were off because he felt better that way.

"That remark go for Jack here?" he asked suddenly.

At the sound of his name, Jack slowly opened a blood-shot eye, half cocked a torn ear and beat a delicate tattoo on the piazza floor with his bony tail.

"It goes for Jack and any other dog in these parts," Lem replied. "Just take this here pointer. Why when he was six months old he was picking up birds like nobody's business. By the time he was full grown he pointed and brought back with the best of them. Of course, that's been quite a while back but he's still got enough in him to satisfy most gunners what really like to shoot."

Jack twitched a shoulder spasmodically and finally raised his head to look back at his left quarter speculatively. He made a half-hearted attempt to bite at the sting in his bony frame, then thought better of it and resumed his quiet slumber with a resounding sigh.

Jack was well along in years but his bone and fine head marked him for a great bird dog. How he came to these parts was a seldom discussed mystery. That he was Lem's dog was enough. He had a deep chest and nicely set ears, a liver ticked pattern with a couple of large brown spots running over his head and spilling down over his rump. His feet were big, large firm pads. Nice paws to hold but maybe a bit too nice for rough going.

"Seems to me I heard you had trouble with Jack when he was a pup," Sam ventured softly, his eyes turning slowly to look up at Lem.

"That wasn't no trouble," Lem replied gruffly. "Just goes to prove a dog can straighten himself out given half a chance."

"Still it seems I remember when Jack wasn't all he should have been," Sam replied, scratching an ear thoughtfully.

Lem looked around cautiously for possible listeners.

"'Twasn't anything to be ashamed for," he replied, "but we don't speak of it much 'cause Jack here is a bit sensitive. Yet if you ain't heard I might take time to sort of sketch the story for you."

Sam yawned and slowly closed his eyes.

"Times meant nothing to you for the past ten years, Lem, and I ain't a braggin' when I say I could easy spare a minutes or so between now and spring plantin'," Sam mumbled softly.

Satisfied that he had a patient listener, Lem thrust his thumbs through his suspenders, ejected an experienced stream of saliva and fixed his gaze on the porch rafters overhead.

"It's nigh on twelve years since I first laid eyes on Jack," he commenced, turning his mind back to that fall when he first appeared at the Corners with the gawky pup in tow.

"In those days most folks in these parts had hound dogs if they had any dog at all," he went on, "the English bird hadn't been interduced hereabouts as yet and what bird shooting there was, such as grouse and partridge was done without the aid of man's best friend."

Sam grunted approval of these statements and Jack, seeming to know that his history was being unfolded, tucked his chin between his paws and eyed Lem respectfully.

"I got Jack in sort of a business deal," Lem continued. "Part payment of an old debt," he explained. "He hails from the Carolinas and the man that sent him claimed he would be the world's best."

Lem paused to pat the burning embers in his pipe affectionately.

"That first season," he went on, "I was mighty careful how the pup was treated. In fact I shot over him alone all the first part. Sort of breaking him in you know, but letting the dog use his own judgment."

"It was toward the end of the year that I took him out with a couple of fellows just to show them what a real bird dog could do. Course I might have bragged a bit too much and laid myself open for some horse play but I never suspected the trouble I was headin' for."

"It might never have happened if one of the Smart Alecks hadn't suggested quail down in the berry swamp. But that's what they did and so off we go to test Jack on quail in the damndest rough stuff you ever laid eyes on."

Sam squinted up through half shut eyes.

"That swamp ain't fit for human walking not alone taking a short haired dog," he remarked.

"Right you are," Lem agreed, "but being puffed up with what Jack had shown me in the meadows I figured he'd look even better in rough going."

Sam settled back into position with a disgusted frown.

"Maybe I don't have to tell you what happened," Lem continued, "because the story came out pretty straight, but at any rate Jack started off like a house afire. We came right on a covey at the edge of the swamp and he stood the boys on their ears, pointed the covey, returned what we knocked down and then picked up the singles one after the other. It was swell work but these fellows weren't satisfied. No, we must go in the berry patch, and then the trouble started."

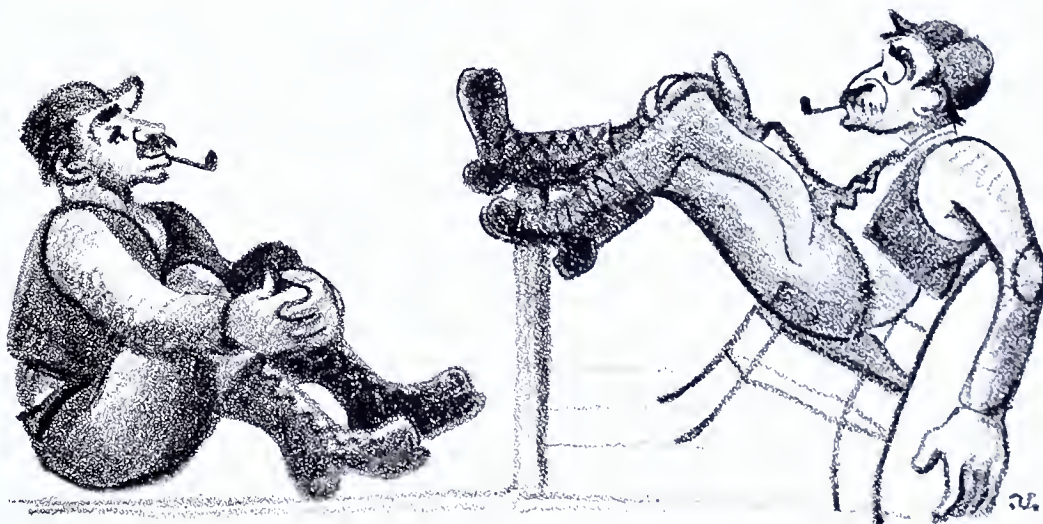
Lem reached down and scratched the pointer reassuredly on the head.

"It was tough even getting into the bog," he went on slowly, "because the brush and briars made a solid cover of four feet high. With our coats and heavy boots we didn't mind much but pretty soon Jack started to act sort of funny. He hung around my heels. He'd go off on a short stretch and come back. I did my best to find some open spots in there but there just wasn't any. To make matters worse, all sorts of game started coming up and Jack was worse than useless. He tried to get around the bushes but it was no go. They were just too thick. Finally he whimpered out loud and quit."

Lem cleared his throat before he continued.

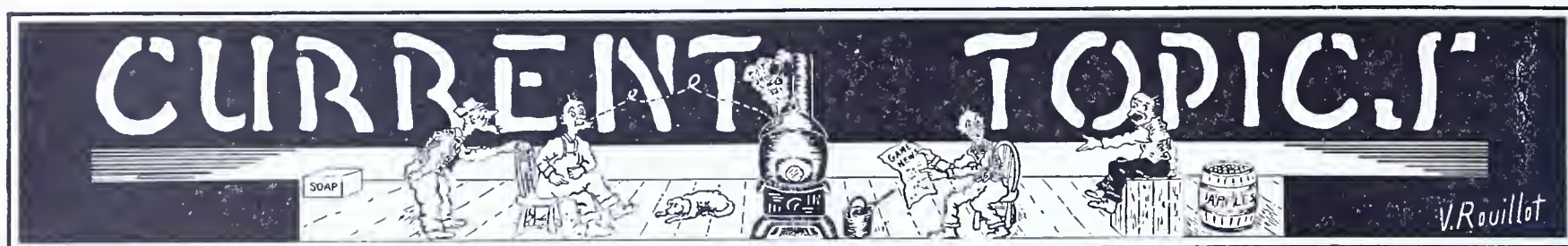
"Briar shy, that's what he was. Call it any other name you care to but that's still it. When I carried the pup out of that swamp those fellows jeered and laughed. I ain't telling you who it was because they don't live here any more. Well, when I got out in the field again, I examined Jack. His feet were plenty bloody and the thorns and briars had cut his head like so many knives. He groaned when he walked and he carefully

(Continued on Page 28)



Sam settled back into position with a disgusted frown.

CURRENT TOPICS



Pennsylvania sportsmen have again benefited through the Pittman-Robertson Federal Aid to Wildlife Restoration Act. Approval was recently given the Game Commission's Land Acquisition Project No. 7-L, which provides for the purchase of 16,502.3 acres of good game territory, made up of twenty tracts distributed through 11 counties of the State. The total cost of the project, including land, survey of boundary lines, title abstracting and conveyancing is estimated to be \$71,154.84.

Under the Federal Aid Act, 75% of the project costs is borne by the Government and 25% by the Commission. Federal Funds are provided by the tax on firearms, shells and cartridges. The annual receipts from this 10% excise tax aggregate approximately \$2,750,000.00. Of this the Congress appropriated \$1,500,000.00 for Federal aid in wildlife restoration. For the fiscal year ending June 30, 1940, Pennsylvania's portion of this amounts to \$71,366.13, of which \$53,366.13 has been allocated to Land Acquisition Project No. 7-L. Following are the tracts of land included in this project.

County	Grantor	Acreage
Bradford	Marion F. Lewis.....	694.0
Centre	E. S. Bennett.....	613.0
Crawford-Erie	A. S. Kennedy Est. ...	240.0
	A. S. Kennedy Est. ...	390.0
(3 adjoining tracts)	Receiver, 2nd Nat'l Bank of Erie.....	1,084.0
Huntingdon	R. D. & J. F. Whitsel..	619.5
(2 adjoining tracts)	R. D. Harper.....	414.5
Luzerne	Lily F. Seneff.....	1,380.0
(2 adjoining tracts)	Lily Lewis	1,866.0
Luzerne	Luzerne Ochre Mfg. Co.	1,241.0
(3 adjoining tracts)	L. V. R. R. Co.	1,495.0
Luzerne	Consolidated Real Estate Co.	375.0
Sullivan	L. V. R. R. Co.	820.0
Venango	J. Harvey, et al.....	848.0
(3 adjoining tracts)	Harrietta H. Stewart	107.6
Perry and	Laura McKenzie, et al	131.8
Cumberland	Alfred M. Smith.....	46.9
Indiana	Vance B. McCormick, et al	900.0
(2 adjoining tracts)	Farmers and Miners Trust Co.	2,700.0
	John C. Arnold.....	536.0
		<hr/> 16,502.3

Hearing someone in the family remark there was a rabbit near his woodpile, Gideon Hartman, of Chambersburg, dropped razor and brush, and with lather dripping from his face, caught up his shotgun. He resumed shaving—after bagging the bunny.

A conservation museum and demonstration area was recently completed and dedicated at Caledonia State Park, near Shippensburg, by the National Youth Administration, and the State Department of Forests and Waters. In the Museum are housed exhibits contributed by various state departments, including the Fish and Game Commissions, Forests and Waters, State Planning Board, State Department of Agriculture, U. S. Soil Conservation Service, National Youth Administration and the U. S. Army Engineers.

The area surrounding the Museum will ultimately be laid out with nature trails planted to common Pennsylvania trees, shrubs and other plants. These trails will lead to various practical demonstration areas such as game refuges, stream improvement and soil erosion projects, forest demonstration areas, etc.



Game Protector E. W. Carpenter, Jamison City, holding a golden eagle which he captured in that section.

According to a report from the Hawk Mountain Sanctuary Association nearly 20,000 hawks were reported during September and October along the migratory route in the vicinity of Dreherstown, Schuylkill County, Pennsylvania. Quoting from the association's report: "Fifty-two bald eagles have appeared over the sanctuary thus far, more than in either 1937 or 1938. An inspiring migration took place October 24 when 1144 red-tailed hawks, 59 red-shoulders and 5 golden eagles passed majestically down the ridge. A remarkable migration of blue jays began September 24 and lasted fifteen days, reaching its peak October 21 with 1535 birds. Many observers were thrilled to see a raven on October 14 and two more on the morning of the 15th. Many geese and other waterfowl also were observed during October. Many observers remarked about the unusual num-

National attention has been drawn to the legal conflict involving the U. S. Forest Service and the Department of Conservation and Development of the State of North Carolina, concerning certain regulatory powers in the management of game in the Pisgah National Forest.

The Pisgah game case arose out of a disagreement between the two governments over the right of the Forest Service to remove deer from the preserve to restock National Forest lands in other states.

The Federal Authorities contended that the deer population had increased to such proportions in this area so as to be overcrowded in relation to available food supply, with resulting damage to existing vegetation and the threat of wholesale starvation. The Forest Service, to compete with such a problem, has been conducting regulated deer hunts in an effort to keep the deer population to the carrying capacity of the area. In these hunts, only the number of deer estimated to be necessary for removal to maintain the herd in balance may be taken.

The Forest Service has also carried on a program of capturing and raising fawns to release in other National Forest areas where deer populations had declined.

The authorities of the State of North Carolina endeavored to prove to the court that it has not relinquished its sovereignty over game within the state and power to enforce State Game Laws on federally-owned lands, although agents for the U. S. Government contend that the enabling act passed by the 1915 General Assembly, of North Carolina, ceded state sovereignty and that subsequent legislation, of that body, in 1935 and 1939 did not rescind the early action.

The Federal Court for the Eastern District of North Carolina, having heard the case presented, rendered a decision in favor of the Federal Authorities. It is assumed, however, that the North Carolina authorities will carry the case to the U. S. Supreme Court.

The Pisgah case is the second of its kind on record. The first ended in 1923 when the U. S. Supreme Court held that Arizona Game Authorities could not prevent the removal of a number of mule deer from Kaibab Plateau, to which they were confined by natural boundaries of Grand Canyon.

The Biological Survey received during this session of Congress the largest appropriation it has ever had in its history, namely \$4,053,691. Previous appropriations, at least prior to 1938, seldom reached the two million mark.

ber of ruffed grouse; wild turkeys also were occasionally seen. The association to date has listed 144 species of birds seen on or over the sanctuary during the fall season since 1934.

CURRENT TOPICS

TRAPPER'S PAGE » » » By Douglas Wade

THIS special page for trappers and fur-dealers was introduced in the December, 1939, issue of the GAME NEWS. At the time this copy was prepared, that issue had not yet been released. Consequently, we do not as yet know how many trappers and fur-dealers may have decided to make contributions to the section. Thus, for this issue, the editor has prepared a brief review of some subjects considered timely.

During the last session of the Legislature, certain new laws and clarification of former laws relating to trapping were put into effect. As these enactments are designed to benefit trappers and to promote annual cropping of surplus and prime animals, it is to the best interests of trappers and fur-dealers not only to understand the laws, but to observe them.

The fact that reforms are needed in the upper brackets of the fur-buying field is well known. It is the opinion of the writer, as well as many other persons who have spent time studying the trapping and fur-buying field, that many of the needed reforms can be brought about. In the main, this is obviously an interstate, or Federal, undertaking. Thus, it is the purpose of this report to discuss only those reforms applicable to Pennsylvania.

A few trappers have made a practice of setting traps before the proper legal season. This action should cease and any persons who know of such violations should willingly report them to the proper authorities. Furs caught before the season are usually not prime and are subject to "slipping" if not properly taken care of. Such furs, when released on the market, are very often classified as trash and in many cases rejected. It is very easy for any region, or State, to get a bad name among the larger fur-dealers, if too many unprime or worthless pelts are sent in from the district. Then too, the trappers who engage in pre-season trapping do not receive full value for their efforts and if apprehended in their illegal acts, they will be subject to the penalties provided by law. They are putting not only themselves "on the spot" but also the dealers who buy such furs. Furthermore, they are giving that region in which they operate an undesirable reputation.

Another law that is being broken by many trappers is that which makes it unlawful to set traps in holes or closer than five feet from any hole or den which may be occupied by a fur-bearing animal or predator. (This restriction does not now apply to underwater sets, that is, when trap is placed completely under water in or near the mouth of a hole). It has been found that many inexperienced trappers, particularly young boys, are ignorant of this law, and that many others are under the impression that when they trap on their own grounds they can make sets in holes. **The law applies whether one is setting on his own lands or those controlled by others.** The older, experienced trappers should make it a point to instruct the young, inexperienced individuals to obey the laws. **It should be obvious to all**

who have engaged in any amount of trapping that much game has been saved since it was made illegal to set traps within five feet of holes. Trappers should, however, use discretion and refrain from making trail sets in rabbit runways.

This season it is legal to take skunks and opossums by use of lights **such as are ordinarily carried in the hand or on the person,** or lawful firearms. The old adage, "give them an inch, and they'll take a mile", seems aptly applicable to this law, for reports have been filtering in to the effect that many persons have taken skunks and opossum, by the use of car lights when driving. Such methods are not legal except in the limits of cities and boroughs and within two hundred yards adjacent to the boundaries, or limits, thereof.

Section 607 of the Game Law states: "It is unlawful for any person to disturb the traps of another, or to take a fur-bearing animal, raccoon or predator from the traps of an-



Thousands of muskrats are trapped and sold to fur dealers within the Commonwealth annually. The muskrat is our most abundant fur-bearer.

other, unless specifically authorized by the owner". The penalty, upon conviction, is twenty-five dollars for each offense.

Trap and catch stealing is apparently on the increase, but here again, the solution lies many times with the trappers themselves. Very often they know who the culprits are, but fail to report them to the proper authorities. Remember the old Chinese proverb, "He who turns his eyes away from acts of evil is party to such acts."

At a special meeting of the Pennsylvania Trappers' Association held at Curwensville, on September 17, 1939, the following measures were approved and adopted:

That the use of the steel trap in taking wild animals be permitted by law from October 10 to the last day of February only, except that the landowner or lessee may use traps at any time when necessary to

control depredating animals; and that the payment of bounty on predatory wildlife become coincidental.

That the raccoon be reclassified to its original status of fur-bearing animal; and that raccoon trapping be lawful in accordance with raccoon hunting.

That the fur-takers (trappers, raccoon hunters, fox hunters) be issued a license to be called the Fur-taker License, and the monies so derived to be separate of the Game Fund and to be called the Fur Fund, and these monies to be used exclusively for the requirements appurtenant thereto; viz: Issuance of licenses, fur laws enforcement, restoration and distribution of fur-bearing animals, education, and related matters.

Additional monies as derived from fur-dealers licenses, violations of fur laws, and similar, to become the property of the Fur Fund.

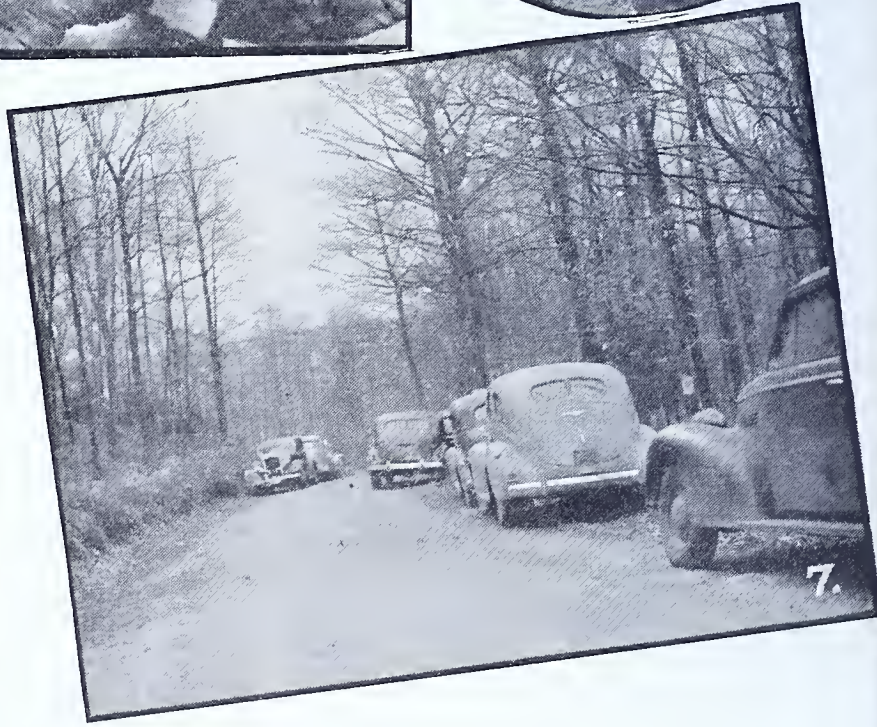
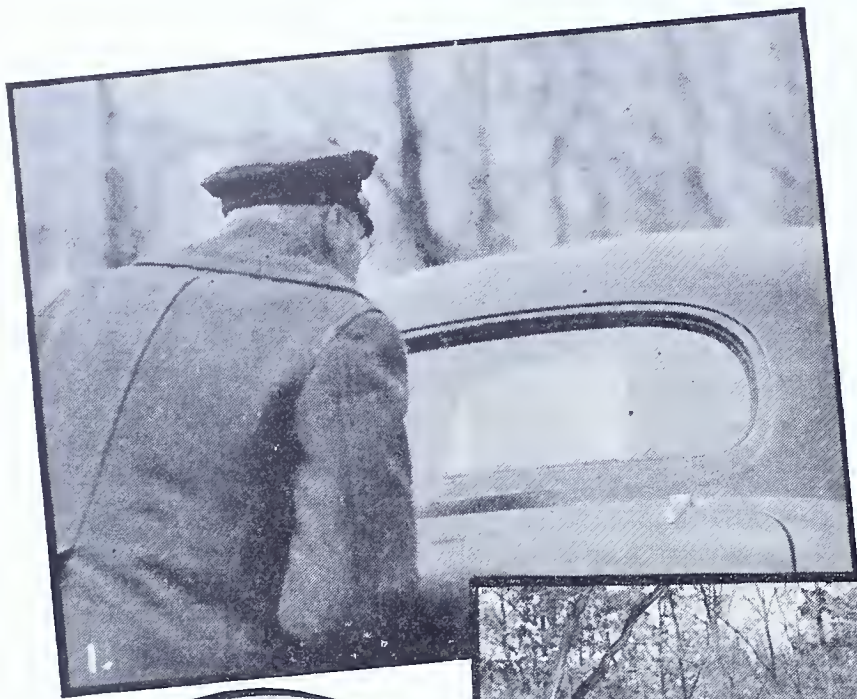
This Association recognizes the value of the fur-bearing animals in more than just monetary terms. It is particularly interested in teaching the sportsman-hunter the positive facts about fur-bearing animals.

Officers for the year of 1939-40 are as follows: President, S. V. Sedlak, Winburne, Clearfield County; vice-president, L. E. Close, Emporium, Cameron County; secretary-treasurer, Ed. Danko, 133 Whyel Avenue, Uniontown, Fayette County.

Directors: District 1, Kermit L. Stearns, Cambridge Springs, Crawford County; District 2, Harry Lawrence, 1109 Loraine Avenue, New Castle, Lawrence County; District 3, Andrew Ewart, Carmichaels, Greene County; District 4, M. L. Scott, Weedville, Elk County; District 5, Edward W. Cox, 1326 Mifflin Street, Huntingdon, Huntingdon County; District 6, Byron Cottrell, Galetton, R. D., Potter County; District 7, Earl Ward, Orangeville, Columbia County; District 8, Robert D. Lauver, Thompsonstown, Juniata County; District 9, L. F. Smith, Gouldsboro, Pike County; District 10, John Megashko, 412 Scotch Hill, Drifton, Luzerne County; District 11, M. C. Boyer, Pillow, Dauphin County; and District 12, Eugene R. Hill, 6772 Marshall Road, Upper Darby, Delaware County.

"CONSERVATION IN THE UNITED STATES" should be read by everyone interested in the country's national resources for it points the way toward the future preservation of man's existence. Prepared by the members of the faculty at Cornell University the volume embraces every field of conservation, analyzes each perplexing problem, and outlines basic facts essential to an understanding of those problems. Subjects covered include conservation of soil and water resources; of forests, parks and grazing lands; of wildlife; of mineral resources, etc. It is a book that should form a part of every sportsman's library. It is published by the Comstock Publishing Company, Ithaca, N. Y. Price \$3.00.

SOME HIGHLIGHTS ON THE DEER SEASON



The Commission's photographer covered a lot of sections during the past deer season and acquired many pictures reminiscent of the hunt. Figure 1—A game protector checks a roster stuck against the rear window of an automobile—a practice employed by many day hunters who hunt in parties. Figure 2—Trailers, tents, trucks, in fact almost every conceivable type of camp can be seen in Pennsylvania's deer woods. Truck outfit shown belongs to a group of fellows from York County. Figure 3—Game protector looks inside a "house" built atop a small "pick-up" truck body. When the occupants sleep in this outfit their heads are under the seat, and their ladder consists of a shelf tacked on the back of the seat. Figure 4—Time out for lunch. Brewing coffee over a hastily built fire is a practice which should be discouraged unless done on open roads where every possible precaution can be taken to prevent forest fires. Figure 5—The protector checks a nice specimen as the successful hunter looks on. Figures 5-6—Thousands of automobiles lined the roads at the entrances to State Game lands and in many cases their owners apparently gave no consideration whatever to fellow hunters, for they completely blocked the gates and even the roads at some points.

SIDELIGHTS ON THE BEAR SEASON



Figure 1—Three Clarion County boys, all brothers, achieved an enviable record last season, each bagging a nice sized bear. From left to right Joseph, James and Edward Smrekar. The animals killed weigh respectively 123, 187 and 180 pounds. Figure 2— Philip Llewyn, of Williamsport, with a fine specimen which he killed near Buttonwood. Figure 3—Adam P. Klick, of Lebanon, bagged his quarry in Muncy Valley, Sullivan County. Figure 4—Woodie Carter and John and Benjamin Scarborough, Williamsport, with a nice trophy bagged near Hillsgrove, Sullivan County, by Mr. Carter. Figure 5—E. B. Stroble, Chester Easton and Edward Nelson, another group of Williamsporters, with a two hundred pound bruin bagged on Wallace Run Mountain in Lycoming County.

CURRENT TOPICS



"Tick" setter owned by M. Sturges David, Mechanicsburg, points a truckload of ringnecks liberated in Cumberland County last spring.

LOST — On November 1, two red fox hounds in the Dixie Run Section, Morris Township, Tioga County. One male and one female; female with scar on hip and tail. Owner, William J. Garverick, 667 Green Street, Williamsport, Pa.

LOST—On Route 404 between Williamsport and South Milton one duffle bag containing hunting clothes. If found communicate with John C. Ferrebee, 239 S. Second Street, St. Clair, Pa. Reward.

STOLEN—A Model 64 Winchester, Serial No. 1116489, stolen from car in Monroe County about two miles above Harrison's Park on Route 115. If found notify Stanley Pomicter, 606 Fellows Avenue, Breslau, Hanover Twp., Wilkes-Barre, Pa.

The following letter was received from Dr. L. B. Warren, 2701 Lorain Avenue, Cleveland, Ohio:

"In 1936 or 1937, my wife and I picked up a badly wounded Gordon Setter, on Caledonia Pike, about six miles south of Caledonia. We drove back and forth to Medix Run road but did not see any car or hunters, and as it was about dark we brought the dog back with us as he would undoubtedly have died if we had left him. He followed us about a mile on the pike and fell down several times as he was going on three legs, and I finally stopped until he came up to us. His mouth was bloody foam and he was whining. He had been hit with 15 shotgun pellets and one hind leg and foot were badly swollen.

"This seems a belated effort to find an owner, but I have always thought his owner might have shot him for disobedience. I have given him a good home but never hunted him, and I may have done both the owner and the dog an injustice by not trying to get them together as he seems a wonderful dog. There was no collar on him. Maybe a lost or stolen notice in the Pennsylvania Game News might get results. I am a subscriber."

The Commission just completed payment of \$28,921.49 to County Treasurers, Township School Districts and Township Road Districts in the form of Statutory Fixed Charges on State Game Lands and Game Farms in lieu of taxes for the year 1939. Last year the Commission paid \$29,220.35 for these purposes.

An erroneous opinion exists in many parts of the Commonwealth to the effect that local taxing authorities lose money when Game Lands and Game Propagation Farms are acquired by the Game Commission. It is true that when title for a tract of land becomes vested in the Commonwealth for use of the Game Commission, that tract is no longer subject to assessment for taxation purposes. However, there is a provision of law authorizing payment of a fixed charge of five cents per acre in lieu of taxes for each acre owned in the respective counties. This five cents is divided into three parts; one cent being paid to the County Treasurer for county uses, two cents to the respective Treasurers of Boards of School Directors, and two cents to the Treasurers of Boards of Road Supervisors.

When the Commission first started its Land Purchase Program, in 1920, it realized a somewhat heavier taxation burden would be thrown onto the public if the Counties and Road and School Districts were not reimbursed for taxes customarily collected. It therefore, on its own initiative, followed the example set by the Department of Forests and Waters by suggesting the enactment of a law providing for payment by the Game Commission of Statutory Fixed Charges in lieu of taxes, in the same manner and in the same amount already in effect for State Forest Lands.

Of the \$29,921.49 the Commission just paid out, \$5,983.68 went to the County Treasurers of 56 counties to be used for ordinary county expenses.

A total of \$11,971.72 was paid to the Treasurers of Boards of School Directors and \$11,966.09 to the Treasurers of Boards of Road Supervisors of 290 townships.

Payments made to the respective Counties and Townships are indicated as follows:

PENNSYLVANIA GAME COMMISSION
STATUTORY FIXED CHARGES PAID ON STATE GAME LANDS AND GAME PROPAGATION FARMS IN LIEU OF TAXES — YEAR 1939

COUNTY	AMOUNT PAID TO			Total	Number Of Townships
	County Treasurer (1c per acre)	Treasurer Township School District (2c per acre)	Treasurer Township Road District (2c per acre)		
Armstrong	\$ 24.17	\$ 48.34	\$ 48.34	\$ 120.85	3
Beaver	.28	.56	.56	1.40	1
Bedford	333.58	667.17	667.17	1,667.92	15
Berks	64.76	129.52	129.52	323.80	9
Blair	68.81	137.62	137.62	344.05	6
Bradford	338.38	676.73	676.73	1,691.84	10
Bucks	24.07	48.17	48.17	120.41	5
Butler	17.47	34.95	34.95	87.37	3
Cambria	113.13	226.31	226.31	565.75	6
Cameron	125.98	251.96	251.96	629.90	1
Carbon	55.08	110.16	110.16	275.40	2
Centre	232.21	464.36	464.36	1,160.93	7
Chester	9.06	18.12	18.12	45.30	1
Clarion	120.64	241.31	241.31	603.26	8
Clearfield	223.30	446.61	446.61	1,116.52	12
Clinton	105.71	211.43	211.43	528.57	2
Columbia	112.22	224.44	224.44	561.10	8
Crawford	56.96	113.91	113.91	284.78	8
Elk	465.74	931.48	931.48	2,328.70	7
Erie	32.78	65.55	65.55	163.88	8
Fayette	102.26	204.52	204.52	511.30	4
Forest	70.57	141.14	141.14	352.85	2
Franklin	69.67	139.33	139.33	348.33	5
Fulton	129.86	259.71	259.71	654.01	7
Huntingdon	150.48	300.93	300.93	752.34	16
Indiana	8.83	17.66	17.66	44.15	2
Jefferson	226.31	452.63	452.63	1,131.57	7
Juniata	61.19	122.39	122.39	305.97	5
Lackawanna	26.39	52.77	52.77	131.93	2
Lancaster	49.43	98.57	97.67	245.67	5
Lawrence	9.24	18.54	18.54	46.32	4
Lebanon	48.78	97.57	97.57	243.92	4
Luzerne	157.73	315.45	315.45	788.63	7
Lycoming	299.31	598.58	598.58	1,496.47	11
McKean	206.34	412.67	412.67	1,031.68	3
Mercer	8.46	16.92	16.92	42.30	1
Mifflin	20.86	41.69	41.69	104.24	4
Monroe	82.96	165.91	165.91	414.78	5
Montgomery	3.28	6.56	6.56	16.40	1
Montour	2.28	4.55	4.55	11.38	1
Northumberland	50.48	100.97	100.97	252.42	4
Perry	36.55	73.10	73.10	182.75	2
Pike	16.78	33.57	33.57	83.92	2
Potter	121.78	243.54	243.54	608.86	6
Schuylkill	49.24	98.46	98.46	246.16	8
Somerset	112.01	224.01	224.01	560.03	7
Sullivan	412.03	824.09	824.09	2,060.21	6
Susquehanna	77.92	155.85	155.85	389.62	6
Tioga	64.48	128.94	128.94	322.36	4
Venango	154.70	309.40	309.40	773.50	11
Warren	248.97	497.94	497.94	1,244.85	6
Washington	23.10	46.19	46.19	115.48	2
Wayne	24.02	48.03	48.03	120.08	1
Westmoreland	77.01	154.01	154.01	385.03	2
Wyoming	248.44	496.89	496.89	1,242.22	3
York	7.61	15.21	15.21	38.03	2
Totals: 56 Counties..	\$5,983.68	\$11,971.72	\$11,966.09	\$29,921.49	290

CURRENT TOPICS

"A lady that lives near Game Lands No. 33 said that when she returned home one evening there were two little animals on the porch. She didn't know what they were, but one was black, and the other was black trimmed in white."—Game Protector Elmer Pilling, Centre County.

"On Saturday, November 18, while feeding ducks at the spillway I counted 318 geese in the vicinity of Glenn Island, west of the spillway. This is the largest number of geese we have ever seen in this area during the fall migration."—Game Protector Burt Oudette, Crawford County.

"On Sunday, November 19, I found in Refuge 507 where a bear had dragged a large doe deer (which had been hit by a car and was not fit for food) about one-half mile, and had eaten a large part of the hind quarters."—Game Protector Chester Siegel, Lycoming County.

"We have a great many bears on Game Lands No. 12. There was a light snow the first day of bear season, and I observed where different bears took refuge in Refuge 12."—Game Protector Walter Zellers, Bradford County.

Luke Stuegeon, 17, of McGees Mills, one of those farm boys who know most of the deer of their neighborhood by their first names, was one of the nimrods who made his "kill" on the opening day of the current season.

He hunted on the farm of his uncle, Luther Mott, where he had been reared, and used an old Spanish-American war single-shot rifle.

Approaching a wooded thicket on the farm he saw a movement in the bushes and the head of a ruminant protruded. Luke fired and the animal dropped to its knees. He fired again and it rolled over. Thrilling with excitement, Luke rushed to his kill and found the quivering carcass of his uncle's 8-year-old blooded Guernsey bull.

The Metropolitan Edison Company, of Reading, Pa., is to be highly commended for its attempt to make its hunter-employees safety conscious. The company mimeographed and distributed to them during the past season the ten safety commandments prepared by the Sporting Arms and Ammunition Manufacturer's Institute.

"I was surprised one evening this week upon investigating the blatting of a deer to find a young buck making all the noise. He was stamping and pawing the ground, shaking his head and thrusting with his horns, all the while making a noise like that of a bull, only more subdued, on the rampage. His motions were impressive, but his 'roar' was not."—Game Protector L. B. Rosenkrans, Elk County.

"Swan migration has been extra heavy this fall. Two hundred ninety-seven swans were counted passing over Ford Island from 7:00 A. M., to 8:30 A. M. on Sunday morning, October 29.

"The following species of ducks are at the Refuge at this time—Mallards, Blacks, Pintails, Shovellers, Lesser Scaups, Buffle-heads, Widgeon, Green-winged Teal, Grebes and Loons. To date no Red-heads or Canvasbacks have been noticed.

"A covey of 19 quail is working on the food plot planted south of Track No. 100. This is the first time quail have been observed in that area."—Game Protector Burt Oudette, Crawford County.

Control of gullies not only halts soil erosion but provides a haven for all species of wildlife.

Altoona High School students who indulge in hunting and who were given instruction in the practices of the chase at the school, have been getting results during the deer season. Six students in the senior class reported recently that each has brought down a deer. They hunted in the wilds of Huntingdon, Centre and Cambria Counties.

"On the opening day of the big game season, Mr. Edward Lhots, 4917 Cypress Street, Pittsburgh, killed a six point buck which was still in the velvet. Only one spot on the horn showed any evidence of rubbing. This specimen was killed in the Warrior Ridge section within three miles of Huntingdon."—John B. Sedam, Technician, Huntingdon, Pa.



Photo courtesy of the Scrantonian

Utterly strange to North America, this South American "paca," was killed on October 28 in a chicken coop at Nicholson, Wyoming County. Joe Kolijeski holds the animal, which was exhibited in front of the Tom Taylor Store, Linden Street, Scranton, where it attracted crowds of curious. The animal, identified by William Stanaka, assistant to Elizabeth Taylor, director of the Everhart Museum, is to be mounted and placed in the museum. It is believed to have escaped from a carnival or circus.

CURRENT TOPICS

The Wyoming Game and Fish Commission will purchase a winter feeding ground for elk on the Gros Ventre River in Teton County, utilizing Federal Aid in Wildlife Restoration funds.

Federal Aid in Wildlife Restoration funds will be used by the North Dakota State Game and Fish Department to develop the Cedar Lake Refuge in the southwestern portion of the State. Waterfowl, Hungarian partridges, sharp-tailed grouse, and pheasants occur on the refuge. Improvements will be made so the area will provide better habitat for wildlife, including the planting of trees and shrubs to provide food and cover, and to control wind erosion.

The West Virginia State Fish and Game Department has submitted a project calling for the purchase of 5,000 metal signs to be used in marking the 177 miles of boundaries on six State Refuges.

The North Dakota State Game and Fish Department proposes the use of a portion of its Federal Aid funds to make improvements on the Dawson Refuge in the south central part of the State, east of Bismarck, to improve food, water, and cover conditions for pheasants, sharp-tailed grouse, Hungarian partridges, and waterfowl.

The Pennsylvania Game Commission has set aside 50 acres of a farm owned by it in Lycoming County as a wildlife experiment station. A set of farm buildings, including a stone house, constitute the present improvements on the tract.

Conservation clubs in Indiana released 43,195 pheasants during 1939, four times the record of the previous year. The clubs had 232 pheasant brooders in operation; also quite a few quail brooders. The Indiana Conservation Commission provided the clubs with 45,450 day-old chicks and the clubs turned out 92.8%.

During the past three months, nineteen game restoration areas have been constructed by game managers and other specialists of the Texas Game, Fish and Oyster Commission. These areas are intended for the restoration of quail, turkey, beaver, and muskrat.

If foreign supplies of furs which normally furnish this country with a great part of the fur it uses are cut off by war conditions, the supply of American fur-producing animals will be in danger of depletion and in some instances exterminated, according to the U.S. Bureau of Biological Survey.

Michigan contemplates several interesting wildlife studies in the near future—one on what happens to game and forest growths after fires; another a study of the Sharp-tailed grouse in the Upper Peninsula. The Sharp-tail, according to reports, is extending its range in northern Michigan.

The Fifth Annual North American Wildlife Conference will be held in Washington, D. C., March 18, 19, and 20 under the joint sponsorship of the American Wildlife Institute and the National Wildlife Federation.

The American Wildlife Institute also will cooperate with the National Wildlife Federation in the sponsorship of the third National Wildlife Restoration Week, which will be observed throughout the nation from March 17 to 23, both dates inclusive.

In the past the annual Wildlife Conference has been sponsored by the American Wildlife Institute and Wildlife Week has been under the sponsorship of the National Wildlife Federation. This year will mark the first time the two organizations have combined their efforts on both undertakings.

The annual North American Wildlife Conferences bring together the leading authorities on wildlife management. During the three-day conclaves outstanding problems affecting wildlife are subjected to round-table discussions and the latest scientific developments in wildlife management technique are disclosed.

National Wildlife Restoration Week is marked by nation-wide participation which seeks to focus the attention of the country on the importance of preserving and restoring wildlife resources.

With the experience gained as the result of its wild turkey restocking project of last year, and the information assembled from its wild turkey research project for additional guidance, Arizona will continue to live-trap and move native turkeys from selected areas where these fine game birds are relatively abundant to desirable ranges now badly in need of stocking.

The Pennsylvania Game Commission has submitted a project providing for ecological investigations by which it desires to ascertain the exact food and cover requirements of the ringneck pheasant, Hungarian partridge, bobwhite quail, and cottontail rabbit, and the methods by which the best food and cover conditions may be maintained under a State-wide management program. The problem will be approached from its physiological aspects and both field and laboratory studies will be conducted.

The results obtained from these investigations, extending over a five year period, will be used to determine a sound food and cover development program designed to benefit Pennsylvania's small game.

The Maine Game Commission has purchased a Stinson "Reliant" plane to perform an unusual year-round service—in summer it will drop young fish from the air to stock inland streams, while in winter hay and other feeds will be distributed to snow-bound deer.

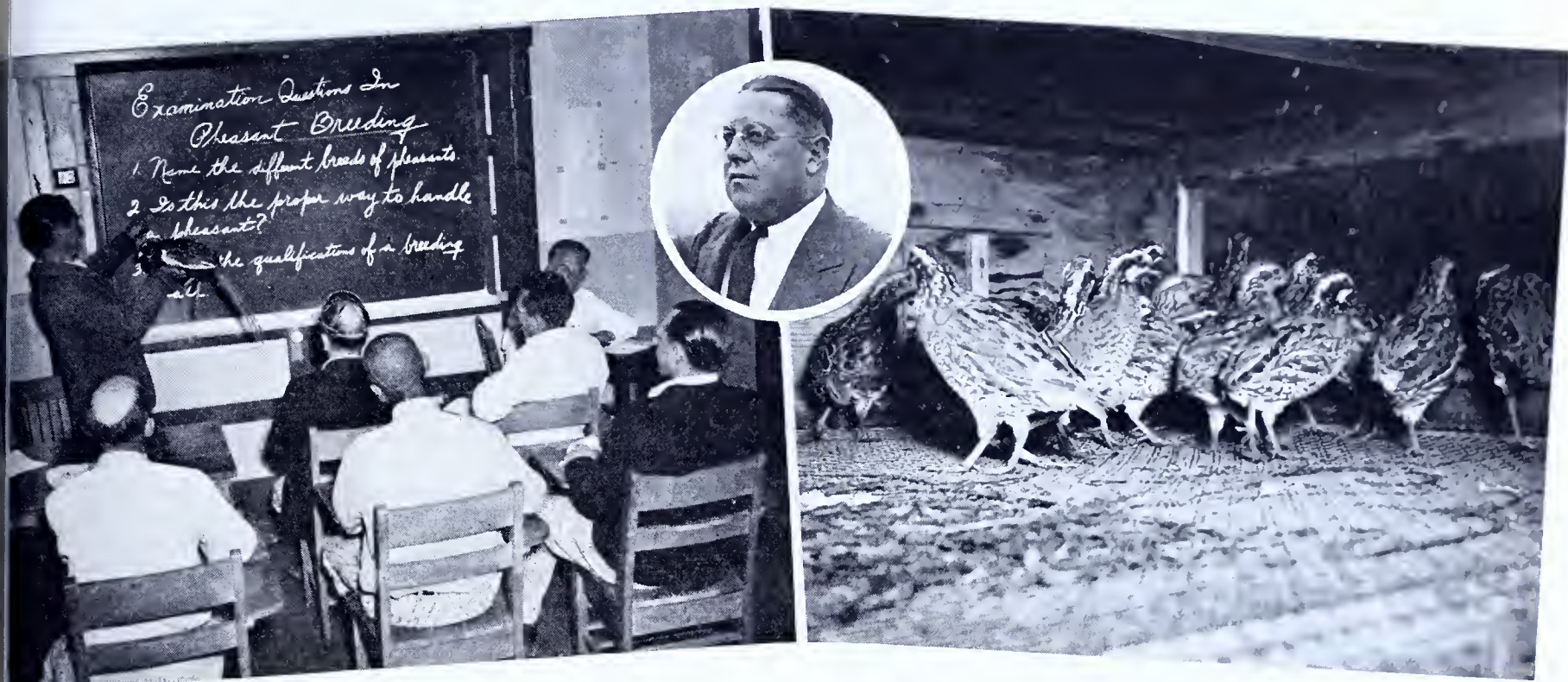
Sassafras, the tree from whose aromatic roots the early pioneers brewed tea, becomes the thirty-ninth species of trees and shrubs now being tested for use as game cover and game food by the forestry and game divisions of the Department of Conservation of Michigan.

The Pennsylvania Game Commission has elected to use a portion of its Federal Aid funds to study the relationship of nutrition and reproduction among white-tailed deer. Specifically it hopes to determine the normal rate of reproduction of the species, the normal sex ratio of the progeny, and the effect of varied food conditions on the rate of reproduction and on the progeny's sex ratio.



While in Columbia County last summer Dr. Guy M. Graybill, of the Bureau of Animal Industry, snapped this picture of a little fawn and kittens at the home of Melvin Fritz, Stillwater. He also observed the animal, a young buck, when he went through that section this fall. It comes and goes to the Fritz home whenever the notion strikes it.

CURRENT TOPICS



Photos courtesy of Philadelphia Evening Bulletin

Eastern State Penitentiary inmates at Graterford study breeding of pheasants and quail, under direction of Ira J. Mills (inset), director of agricultural education at the prison.

The birds, raised from chicks in several large pens just outside the walls, were released, when 12 weeks old, on unposted land for the benefit of last season's small game hunters.

The Thomas Jefferson National Forest and adjacent lands in southwest Virginia were once the home of large numbers of wild turkeys. Prior to the recent purchase of this forest area uncontrolled and in many instances illegal hunting had eliminated these fine game birds from a considerable portion of the mountain section of the State.

There are extensive areas with ideal food and cover in this forest which now are or will be closed to hunting. The Virginia Commission of Game and Inland Fisheries plans for the restoration of populations to the carrying capacity of available ranges.

New legislation enacted this year provides that in the future Wisconsin will pay for damage done by bears as well as deer. The legislation follows many claims during the last few years as to bear damage to bee-hives, sheep, calves and pigs.

The problem of bear damage is also a serious question in the neighboring state of Michigan. A recent statement by the Michigan Conservation department says:

"The legislature in its recent session, eyeing bills for bear damage totalling more than \$5,000, approved payment but voted to remove the animals from the protected list. The legislature qualified its action, however, in authorizing the commission to restore protection to bears in any county."

A portion of Oklahoma's Federal Aid funds will be used to study the State's wildlife resources for the inauguration of a comprehensive restoration and management program.

The New York State Conservation Department proposed the construction of a pathological laboratory at the Delmar Research Center located a few miles out of Albany, New York. The labor costs for the structure will be borne by a WPA project sponsored by the Conservation Department.

The Texas Fish, Game and Oyster Commission proposes the trapping of parts of populations of antelope on overcrowded locations and the moving of them to other suitable ranges, thereby reducing the existing competition with domestic livestock for available forage.

The Commission will collect and compile data on the weight, age, and sex of the antelopes moved. The animals will be tagged and information will be gathered after moving on limiting factors such as predations, diseases, parasites, weather and other factors on which adequate information is not now available.

A State Game Warden at Wichita Falls, Texas, recently noticed a train halted near a river and dust flying out of the doors of several cars. Upon investigation he found that the conductor had about half a dozen hoboes sweeping out grain from grain cars to feed a bunch of wild turkeys that use that area. Questioned, the conductor said that he had heard the warden's plea last winter when snow was on the ground, about feeding wildlife and he decided that every time he had any empty grain cars on his train he would make use of the bums riding by having them sweep out the cars at a place where he knew turkeys were ranging.

Sixty-four percent of West Virginia is forest or potential forest land. Previous extensive logging operations and fires have provided favorable deer habitat on a large portion of the existing wild lands. The deer population, having been so reduced in some localities, in West Virginia, as to make it advisable to restock to provide reproduction compatible with the available food supply and carrying capacity, the Conservation Commission has submitted a project to restock deer in certain counties.

Whether the cutting of large trees is detrimental to the squirrel crop of Texas will be determined by Regional Game Biologists who have started a squirrel and squirrel nest count in certain counties where considerable logging is being started.

The total squirrel populations of these counties will be determined before a large amount of timber is taken and another count will be made when the woods have been considerably thinned by the felling of large trees to be made into ties, crates, and boxes.

It is not definitely known whether the cutting is detrimental or is an aid. It is possible that the thinning of timber will increase the available food supply for the little "nut-eaters," or again it may be that too many suitable nesting sites are removed and the squirrel population will be hard hit.

The Maryland State Game and Inland Fish Commission proposes the acquisition of an upland game refuge area comprising 1,206 acres. When developed and in operation the acquisition will afford good haven for deer, wild turkeys, ruffed grouse, bobwhite quail, cottontail rabbits and squirrels.



Booth maintained by Gateway Sportsman's Association in the Logan Hotel, Dubois. Left to right: Henry E. DuBroux, Sec.; Edgar F. Brasseur, Treas.; Frank L. Allen, Field Contact Man for Association. In a recent letter Mr. DuBroux stated that the Bureau took care of 500 requests for information during the past season.

"Although our club has only been organized a few short months, we already have stimulated interest in the young sportsmen of this locality. We have a program which includes activities throughout all the seasons of the year. Included in this list are the building of rabbit covers, feeding stations, and care of fish during low-water stages, and also aiding the Senior Division in any projects they may undertake. Plans for a big vermin contest during the summer are being formulated, and we also hope to aid in rabbit trapping this winter under the supervision of the Game Protector. At present the club is active in the construction of bird feeding stations which we will keep stocked during the winter months. We have hopes of financing this project in part through a system of contribution boxes in vantage points throughout the city. We hope to put this plan into operation within a week, and have it well publicized through the newspapers.

"I am firmly convinced that an outdoor-loving group of boys such as our Junior Sportsmen's Club can do a great deal of work in conjunction with the Game Commission."—George W. Lawn, President, Junior Division DuBois Gateway Sportsmen's Association.

During the past small game hunting season the Federation of Sportsmen's Clubs of Lancaster County purchased and erected 19,000 safety zone posters, thereby opening to public shooting exactly 19,000 acres of lands which were heretofore posted.

A highly educational program was sponsored by the Columbia Fish and Game Association recently at which time a very clever demonstration of archery was presented by Clayton Shenk, President of the Lancaster Archer's Association, who exhibited and explained the use of various types of bows and arrows. One of his crack students also demonstrated actual shooting at a target placed on the stage of the high school auditorium. An equally interesting demonstration was presented by Ralph Sides, hunter, fisherman, and camper who displayed types of equipment best suited to long trips both on land and water, including among other things a pyramidal tent made of waterproof airplane silk with sewed-in bottom, a birch bark canoe, etc. Mr. Sides spent a lot of his time on rivers and streams throughout Pennsylvania and Canada. A splendid talk and motion pictures on the evolution of the hunting dog was also given by Dr. E. K. Tingley, nationally-known figure in hunting dog circles throughout the country and president of numerous field trial associations.

"During the past week eleven elk visited the refuge headquarters. They have been staying close by for three days."—Game Protector George H. Burdick, Cameron County.

The Sewickley Conservation Club, Sewickley Heights, is planning an extensive feeding program this year.

The Berks County Championship Shooting Dog Trial, sponsored by the Keystone Setter and Pointer Club of Reading, was held Sunday, October 29. A large crowd of bird dog enthusiasts was on hand, and loudly acclaimed the decisions of the judges, James A. Albright, Mohnton, Pa., and E. G. King, Annville, Pa.

Lynoak Alex Kagen, white and liver pointer, owned and handled by W. J. Zimmerman, Shillington, won the nod and the handsome silver trophy. He and his owner also will have their names emblazoned on the Berks Kennel Club trophy, a big affair which is contested every year in the fall. Alex Kagen duplicated his feat of the Keystone Setter and Pointer Club's open trials last spring when he won the special Berks County award. This well set up pointer, a direct descendant of Frank of Sunnyslawn, our old friend Charley Forrer's great dog, shows his sire's influence in his statusque handling of birds.

A well deserved second was taken by Hoboes Carolina Joe, another white and liver pointer, owned and handled by Elmer Harbach, Temple. Joe picked up and handled well three birds directly in front of the large gallery.

Third place was awarded Belle H., another white and liver pointer, owned and handled by the well-known old timer, Joe Schultz, Reading. Belle capably handled two birds around the course and ran a nice ground heat.

Social Pal, white and orange pointer, owned and handled by F. C. Miller, Spring Valley, nosed under the wire for fourth and last place, after being called for a second series heat.

Nineteen dogs competed and the results were a question until the last one was called as quite a few of our old faithful Berks County shooting dogs snapped up their birds in great style, but proved slightly unsteady to shot and wing. Better luck next time is the word and look for us next fall.—R. Clyde Buck.

NOTICE!

SPORTSMEN'S ORGANIZATIONS

When informing this office of the election of new officers, please include the NAME AND ADDRESS OF THE FORMER SECRETARY.

This is necessary before the club can be included on the mailing list for the GAME NEWS.

EDITOR.

The DuBois Gateway Sportsmen's Association set-up a Hunter's Information Bureau in the lobby of the Logan Hotel from November 28 to the early hours of December 1. The club's secretary, Mr. Henry E. DuBroux, writes that they had hunters from almost every county in the State stop in and ask for information; also many from Ohio and West Virginia; free copies of the Game News and Angler were handed to each hunter and subscriptions also were taken. Free road maps and camp rosters were also passed out, together with copies of daily papers containing a Special Hunting edition.

Information was given out with regards to road conditions, camping facilities, boarding and lodging, the condition of the deer herd, amount of game lands, private lands, posted lands. Questions on the Game Laws were also asked. The information covered conditions in Jefferson, Clearfield, Cameron, Elk, McKean, Potter, Tioga, Clinton and Forest Counties.

About 80% of the over 500 hunters who made use of the booth asked about road conditions; about 50% asked about the number of deer and about 10% inquired concerning boarding and lodging.

The club is now entering into its winter feeding program and has distributed many containers among local merchants asking for contributions to that cause.

The Eastern Counties Protective Association, Paoli, recently made its local Boy Scout Troop No. 81 honorary Junior Members and extended the privileges of the club to them. The Scouts will erect game shelters and feeding stations.

Now in its fourth year the Federation of Sportsmen's Clubs of Berks County has achieved statewide recognition for its efforts in conservation of both plant and wildlife. Since its formal organization on January 24, 1935, the federation has liberated thousands of rabbits, pheasants and other small game on public hunting territory, aided in the establishment of game and fish refuges, secured fishing and hunting privileges on land and waters heretofore closed to sportsmen, and promoted a better understanding between the farmer and the sportsman.

Monthly meetings to promote true sportsmanship and iron out difficulties which may arise in the territory served by the individual clubs are held, usually at the Central Y. M. C. A. building, Reading. During the summer months, however, the various clubs act as hosts for the meetings and combine social activities with the business sessions.

There are two delegates and two alternates for each organization who are appointed to represent their particular club at the federation's meetings. Each organization is entitled to two votes and all delegates have equal voice in business procedure. Timely suggestions and reports of happenings in their respective organizations are encouraged at each meeting.

Merton J. Golden, District Game Protector, and William E. Wounderly, County Fish Warden, attend every meeting and aid the federation in carrying out their conservation plans. The sportsmen, in turn, repay their

cooperation by aiding them in their official duties.

Typical annual event sponsored by the federation is the rabbit drive, conducted after every hunting season at the Lake Ontelaunee watershed. There hundreds of sportsmen gather year after year and drive hundreds of live rabbits into a huge net, crate them, and later release them on open hunting territory throughout the county.

Another local propagation area has been established in Bern township on the 712-acre prison farm and sanitorium tract. This step was inaugurated by the Berks County Chapter, Izaak Walton League, which organization rears pheasants there for liberation throughout the county.

In lieu of rent for their meeting room the federation annually pays for junior membership dues for two specially selected boys to the Y. M. C. A. Federation members also take active part in the selling of Wildlife Federation stamps every year.

Vermin drives have been conducted annually throughout the county, with cash prizes being awarded to the most successful hunters, and special committees inspect and report on any stream pollution.

Member clubs of the federation are: Hereford Rod and Gun Club, Oley Valley Fish and Game Association, Cushion Peak Rod and Gun Club, Mohnton Fish and Game Association, Izaak Walton League, Berks County Coon Hunters' Association, Pine Forge Sportsmen's Club, Mertztown Rod and Gun Club, Community Rod and Gun Club, Bechtelsville; Blandon Rod and Gun Club.

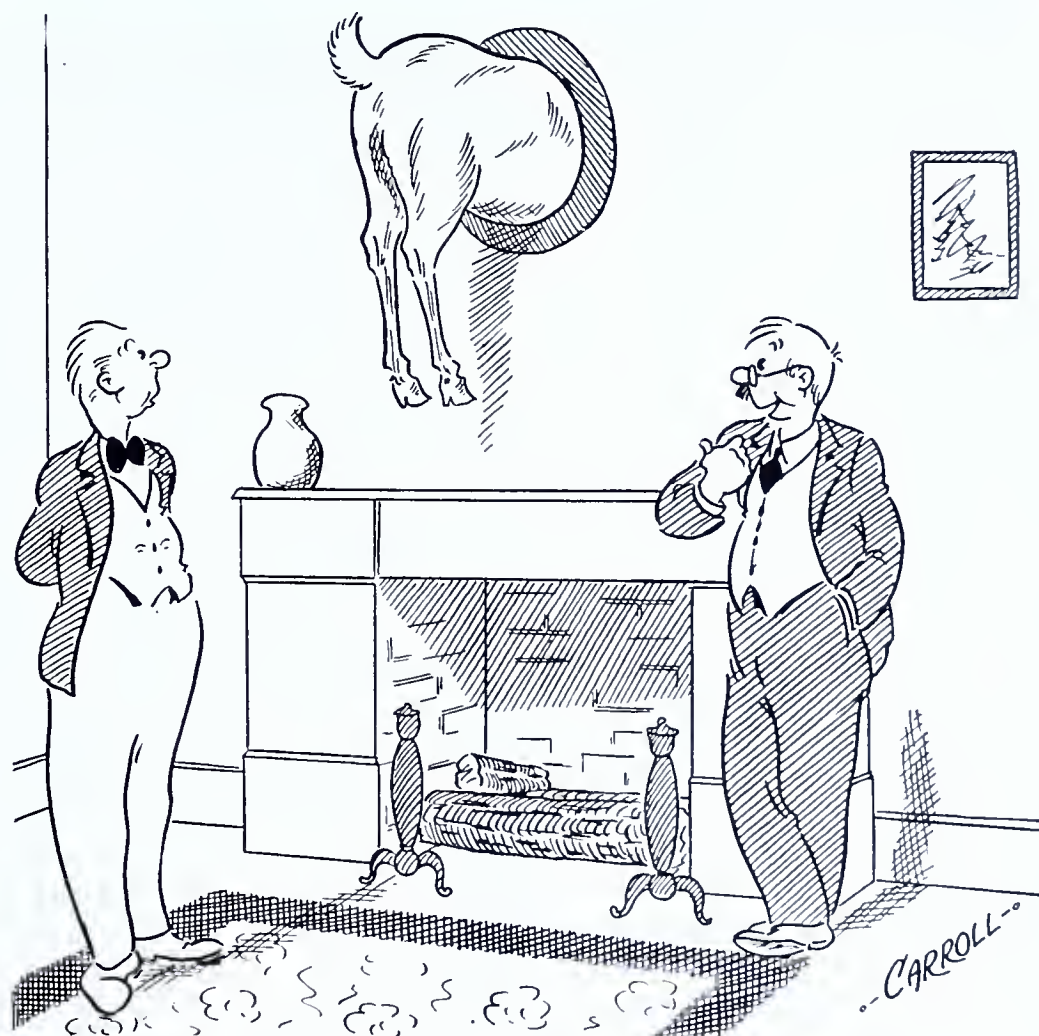
Daniel Boone Rod and Gun Club, Morgantown Rod and Gun Club, Perry Township Game Association, Fleetwood Fish and Game Association, Northwestern Berks Rod and Gun Club, Lenhartsville Fish and Game Association, Kutztown Rod and Gun Club, Hamburg Game Association, Rusco Sportsmen's Club, Keystone Pointer and Setter Club, Birdsboro Sportsmen's Club, Inc., Lebanon Valley Sportsmen's Association, Northkill Rod and Gun Club, Tri-County Fox Hunting Association and Kempton Rod and Gun Club.

"In 'Mail Bag' of the 'News' a president of a sportsmen's club inquires how club members may do something besides hunt and fish for their own amusement.

"One suggestion is to apply the word 'Educate' in liberal doses to club members and boys of the community.

"Eighty percent of high school boys crave outdoor activities. If they learn the rules of safety, law observance, good sportsmanship and respect for all outdoor life, accidents and violations will decrease.

"Club members can cooperate with Scout leaders, school authorities, service clubs and landowners in a get acquainted program of mutual benefits. For after all the real sportsman is a fair-minded chap wherever you find him; and it is not the amount of fish or game you kill that makes a perfect day, or a successful club."—V. A. Hicks, President, Sayre Sportsmen's Club.



We had an argument as to who shot it.



Lots of hunters resolved not to shoot quail during the past season. These two hunters passed up a splendid opportunity, but as one remarked later, "we would like to give them another year or two in which to recuperate."



Winner of the Keystone Setter and Pointer Club's Field Trial, October 29. Reading from left to right, Synoak Alex Kagen, pointer, W. J. Zimmerman, Shillington; Hoboes Carolina Joe, pointer, Elmer Harbaek, Temple; Belle H. pointer, Joe Schultz, Reading; Social Pal, pointer, F. C. Miller, Spring Valley.

BOOK REVIEWS

A BOOK ON DUCK SHOOTING — Van Campen Heilner needs no introduction to the Outdoor Fraternity. His name is a household word wherever sportsmen gather. His books on hunting and fishing have had tremendous sales in all parts of the world.

A BOOK ON DUCK SHOOTING is Mr. Heilner's greatest achievement. Nothing like it has ever appeared. It might almost be called "The Duck Hunter's Bible."

It is safe to say that few men have ever had the wildfowling experience of the author. From Alaska to Mexico, from California to New Jersey the book covers every phase of wildfowling on the North American Continent, all gleaned from personal experience.

Nor does he stop there, but gives just as complete a picture of duck and goose shooting abroad—Great Britain, Germany, Hungary, and Rumania.

Superbly illustrated with sixteen color plates and many drawings by Lynn Bogue Hunt and with photographs, this volume is the greatest work on duck and goose shooting that has ever appeared. This interesting book can be secured from the Penn Publishing Company, Philadelphia, for \$7.50.

NIP AND TUCK—This book, by Ray P. Holland, Editor of **FIELD & STREAM** Magazine, records the highspots in the lives of a pair of well-bred gun dogs. Nip and Tuck were pointers, whelped in the same litter. They grew up with the author, and traveled with him over much of North America.

Mr. Holland, who knows gun dogs as few men do, has written a delightfully readable story in telling of the lives of these two dogs. It has humor, pathos and tragedy. You will go with him to Saskatchewan for prairie chicken and to the Deep South for quail. You will learn to love Nip and Tuck as he did, and you will also become very fond of Little Willie, a springer spaniel, who will worm his way into your heart as he plays a supporting role to two great hunting dogs.

Each chapter is illustrated with drawings by Arthur D. Fuller, whose work is well-known by the sporting public; he hunted with Nip and Tuck, and his pictures are of double interest because of their accuracy. Thirty-two pages of photographs are used, which, together with captions, give a complete history of the raising, training and hunting of these dogs. This interesting book can be secured from the Penn Publishing Company, Philadelphia, for \$2.50.

"On the afternoon of November 2 a wild Canada Goose settled in the meadow near here. I picked it up without any trouble and kept it overnight. It seemed completely exhausted, and was in poor condition."—Game Protector E. E. Hunsinger, Potter County.

John Lisson, of Bradford County, discovered two buck deer recently with their horns firmly locked. One animal was dead; the other was dragging the lifeless carcass of its antagonist across a field unable to free itself. One Lewis Neuber, assisted by a number of his neighbors, came to the rescue. They finally succeeded in lassoing the front leg of the buck and after throwing it and tying its hind legs they were able to hold the animal while Mr. Neuber sawed the horns from the dead animal. The victor carried a rack of 14 points and when liberated soon disappeared.

A letter from P. W. North, Dushore, addressed to the Game Commission after the episode, commends Mr. Neuber and his neighbors for having done a splendid piece of work.

"Game in Somerset County apparently getting educated, at least to the point of being able to read. While patrolling in Addison Township last week I saw a grey squirrel sitting on a large oak tree about three feet below a sign reading, 'No Hunting Allowed'."—Game Protector Nicholas Ruha, Somerset County.

During the past year the Columbia County Rod and Gun Club, which now has a membership of almost 600, purchased and restocked 54 adult ringneck pheasants, 2,200 legal size brook trout, and 372 cottontail rabbits. The association, a member of the State Federation, divides its annual \$1.00 membership dues as follows: 40% for game purchase; 30% for fish purchase; and 30% for administration. During the year it organized a Junior Conservation Club for the protection of local streams, removing over 600 watersnakes from them. Over 47,000 fish were stocked from State and Federal hatcheries, and an extensive winter feeding program was carried on. The club boasts a fully equipped Skeet Field. Not bad for an outfit just organized in January 1937.

Suggestions are entertained for improving **GAME NEWS** during 1940. The more the better. Only by an exchange of ideas between the readers and the editor can the **NEWS** be made interesting and instructive to everyone. Remember, also, that the larger the circulation the larger the number of contributions and constructive criticisms. Every reader should start the New Year right by securing another reader. Why not enter a subscription for a farmer friend? The **NEWS** carries many articles telling how to improve farm lands for wildlife.

The Copechan Fish and Game Club, Schnecksville, is planning a "family night" for Feb. 1.

SOIL CONSERVATION—by Hugh Hammond Bennett, Chief, Soil Conservation Service, U. S. Department of Agriculture.

In this pioneering work one of the foremost authorities in the field gives a detailed treatment covering every aspect of the subject of land loss owing to soil erosion—the progressive waste of productive earth under the wash of rain and the sweep of wind, with its broad implications of social and economic decline.

The book brings into sharp focus the urgent problem of our dwindling land resource. It discusses the rate at which good soil is going, the reasons, the results, and what must be done to stop it. The relationship between erosion, wasted rain, and the increasingly serious problem of sedimentation is fully outlined.

In the second half of the book measures of soil defense are discussed in a program of national conservation action. The approach to soil conservation is new in that it emphasizes the need for a coordinated farm-by-farm program of wise land use and treatment covering each field, pasture, and woodlot according to its requirements and adaptability.

Since 1903, when Dr. Bennett entered the Bureau of Soils of the United States Department of Agriculture, he has devoted his entire professional career to a study of soil erosion problems and to organizing a nationwide program of soil defense. Dr. Bennett's many contributions to the literature of the subject have won international recognition.

The book is published by the McGraw-Hill Book Company. Price \$6.00.

THE BOOK OF FISHES—For those interested in fish and fishing either in lake, river or sea the National Geographic Society's "The Book of Fishes" just published will be a treasure indeed. Beautifully illustrated with 443 colored portraits, 102 biographies and 162 photographs this amazing treatise by some of the nation's best known authorities combines both education and thrills in its contents and splendid illustrations. It is not only a fisherman's book, but a children's book. It is a dictionary of fish and fishing. A few of the chapters that go to make up this piscatorial information include "FISHES AND FISHERIES OF OUR EASTERN SEABOARD", "OUR HERITAGE OF THE FRESH WATERS", "FISHING IN PACIFIC COAST STREAMS", "SEA CREATURES OF OUR ATLANTIC SHORES", and "MARKET FISH HAVE MANY NAMES". It is published by the National Geographic Society, Washington, D. C. Price \$3.50.

THE FIRST LESSON IN CONSERVATION

The highest ideals of our political, social and moral philosophy are based on the teachings of the Bible. It is the best seller of all books and is habitually read by the American people to a greater extent than any other. There is no phase or aspect of human experience that it fails to touch. It is recognized as the history of the moral evolution of the human race from the beginning of man as a rational and responsible agent.

In all literature there is no better exposition of the proper attitude of man toward his God-given natural surroundings. This phase of Biblical teachings is too much overlooked.

The story of man begins with an allegorical account of his experiences in and relations to the organic or physical environment in which he first found himself—called the Garden of Eden. The first test to which his moral fiber was subjected was to determine his attitude toward this environment, and not the attitude of the individuals of the race toward each other.

It was recognized that the free and unrestricted use of the Garden, which was man's habitat, would not result in his attaining his highest ends—therefore, the forbidden fruit.

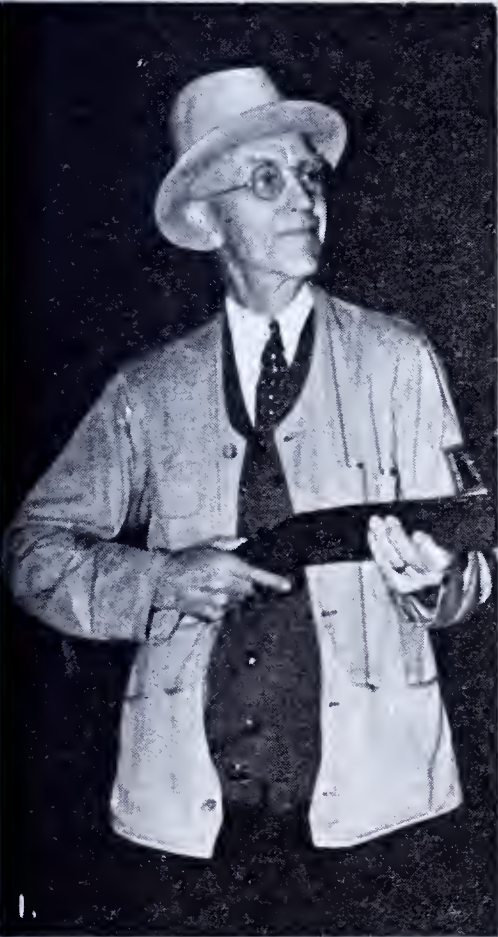
The extent of man's dominion over the physical world as a rational, moral agent is clearly stated, and the consequences of the misuse of this dominion most emphatically taught.

It is the first great lesson in conservation—starting out with man in an ideal organic background, which he was forced to abandon by his own acts.

This experience has been repeated many times in human history and in every case it was followed by economic, social and moral collapse.

William E. Koble, Jr., Fallson, killed a fine 8-point buck during the past season with a pistol. No cumbersome luggage or heavy guns for him, he says.

January 16 is the **dead line** for returning your game-kill report. Save yourself possible embarrassment or even a fine by submitting **your** report promptly.



The Susquehanna Trap Shooter's Association celebrated its twenty-fifth anniversary last October with a shoot and dinner at the Irem Temple Country Club at Wilkes-Barre. The affair was also an anniversary for Brian Teats, well-known Luzerne County Sportsman, who never missed a shoot in the history of the Association.

The State Fox Hunters' Association's Bench Show and Field Trials held at Waynesburg, October 23 to 27 was bigger and better than ever before. There were 91 hounds in all age cast, and more than 100 hounds benched. Many states were represented, foxes were plentiful, and everyone had a good time.

Rose Ann Baer, daughter of Mr. and Mrs. Fred W. Baer, of Hopwood, Pa., was crowned Pennsylvania Fox Hunter Queen on the last day of the meet. The Horse Show was fine, the Square Dance crowded, but the Drag Races were not so hot.

Visitors from a distance were Jack Winn, of Nashua, New Hampshire, "Red" McCormick, Arnoldsburg, W. Va., Walter J. Shearer, and Mr. Preston, Vinemont, Pa. The Woods Brothers with their wives from Huntingdon, Pa., Guy Kepner, New Bloomfield, Pa., Chas. R. Horting and Tom Gibney, New Port, Pa., Frank Parker, Clark Summit, Pa., Dr. F. S. Birchard, Montrose, Pa., Otto Shriver, and Betty Fairmont, W. Va., Francis Gates, Binghamton, N. Y., L. B. Shackelford, Barracksville, W. V., J. H. DePue, Spencer, W. Va., stole the Meet by winning both Bench and Field Champion.

J. Cal Turner, Belle Vernon, Pa., was Master of Hounds.

Jos. G. Darby, of Pittsburgh, Pa., was Bench Show Judge. Field Judges were Harold Cowell, John B. Eisiminger, David Walker, and G. R. Walters, of Waynesburg, Pa. Dallas W. Coplin, Va., Tracy Darrow, Montrose, Pa., Earl Beazell, Van Voorhes, Pa., and Pascal Bailey, of Roane County, W. Va.

Bench Winners—Puppies under 3 months, 1st, Chum, Higgins and Fuller, Waynesburg, Pa.; 2nd, Freckles, Chas. Fuller, Waynesburg, Pa.

3 to 8 months—Male, 1st, Gray Wing, Higgins and Fuller; 2nd, Cyclone, Grable and Stollar, Washington, Pa.

3 to 8 months—Females, 1st, Mary, Betty Shriver; 2nd, Nellie Wing, Higgins and Fuller.

8 to 12 months — Male, 1st, Big Smoke, Ronald Brant, New Freeport, Pa.; 2nd, Bob, Robert Moninger, New Freeport, Pa.

8 to 12 months—Female, 1st, Gray Moon, Ronald Brant; 2nd, Sue Smoke, Ronald Brant.

Derby—Male, 1st, High Doctor, J. H. DePue, Spencer, W. Va.; 2nd, Jeffs Echo, Orville Baker, St. Clairsville, Ohio.

Derby—Female, 1st, Trixie Dawson, Lazear Eisiminger, Waynesburg, Pa.; 2nd, Peggy, John J. Brant, New Freeport, Pa.

All Age—Male, 1st, Pat Lowry, Orville Baker; 2nd, Mike, John J. Brant.

All Age—Female, 1st, Catherine Hays, Ronald Brant; 2nd, Ruby Rose, Robert Moninger.

Best Pairs—1st, Arnett Fuller, Waynesburg, Pa.; 2nd, Fuller and Higgins.

Pack—1st, Dr. F. S. Birchard. Best Derby Hound, High Doctor, J. H. DePue. Best All Age Hound, Catherine Hays, Ronald Brant. Penna. State Champion, Bench, High Doctor. Best of Opposite Sex, Catherine Hays.

Derby Field Winners—1st, Wild Ann, Jos. G. Darby, Pittsburgh; 2nd, Star Boarder, Dr. F. S. Birchard.

All Age Winners—1st, Mack, J. H. DePue, Spencer, W. Va.; 2nd, Rusty, Otto Shriver, Fairmont, W. Va.

"What is the answer to this one? On Sunday afternoon, November 19, this year, my wife and I were driving along a country road, and I noticed something on the road a short distance ahead of my car. I drove slowly and discovered it was a grouse. It did not fly until after we had passed. Then it raised and followed directly back of us. I stopped; then it lit on the road beside the car. We tried to chase it away but it seemed to prefer to stand its ground. I got out of the car and walked over to pick it up. It just spread its tail like a fan and made a queer noise with its throat and would keep walking about six feet ahead of me. When I would try to get closer it would walk away; when I would stop he would stop. Now the question is, was this a tame grouse or just what is your answer?"—Arthur Cullen, Portage, Pa.



One of many road signs erected by the Friends Cove Sportsman Association to protect game on the highways.

Chauncey E. Logue, veteran Commission employee recently retired, collected his first bounty in twenty years on November 9, despite the fact that he captured hundreds of predators during his long service with the Commission. The last bounty he collected was on a gray fox in 1919.

Dr. D. L. Corbett, East Brady, would like to receive comment on a suggested plan to care for the families of licensed hunters who are either killed or injured. Dr. Corbett suggests an increase in the hunting license of from twenty-five to fifty cents to finance such a proposition.

Every hunting camp has its own peculiar set of rules and regulations. Following are those adopted by the Evergreen Lodge, of Straights, a copy of which was handed to every member immediately upon his arrival at camp.

1. The COOK after eating his own grub will be unable to wash dishes.
2. PEOPLE ARE KILLED WITH EMPTY GUNS. BE SURE YOUR GUN IS UNLOADED AND ALL SHELLS REMOVED FROM THE MAGAZINE BEFORE BRINGING IT INTO CAMP. IN CAMP KEEP IT IN THE PROPER PLACE AND LEAVE OTHER GUNS ALONE.
3. Grub will be figured on a cost per meal basis.
4. As usual beer will be charged at cost per bottle to those who indulge.
5. WEAR RED AND PLENTY OF IT. LOOK BEFORE YOU SHOOT AND BE CERTAIN THAT IT IS LEGAL GAME BEFORE YOU PULL THE TRIGGER. THERE IS NO EXCUSE FOR SHOOTING A FELLOW SPORTSMAN.
6. THIS IS NOT DOE SEASON IN ELK COUNTY. IF YOU MAKE A MISTAKE REPORT IT TO THE CAMP PARTY FOR THEIR ACTION.
7. We are out for a vacation and a good time. Rangling and quarreling is out of place among good sportsmen, so smile and be happy.
8. A continuous Floor Show will take place every evening from 8 P. M. until—
9. Anyone not abiding by these rules and regulations will be turned over to the Chief of Police of St. Marys for punishment. Bill will be one of us and is hereby appointed official BOUNCER.
10. The Gang for this year: "Pop" Leonard Lesser; "Bunk" Clarence Boland; "Doc" Walter Opel; "Silver Top" Charles Leibacher; "Speedy" Vincent O'Leary; "Red" Francis Hanes; "Chief" Bill Goetz; "Windy" Leander Weis; "Cold Turkey" A. J. Hanes.

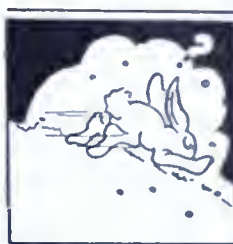
Guest—William Drake, Official Photographer for the Pennsylvania Game Commission.

The Bellwood-Antis chapter of the Future Farmers of America recently undertook a rather broad wildlife management program under the guidance of C. C. Brennecke, local Game Protector and the Bellwood-Antis Association. The program will include construction of game food shelters and placing the feed during the winter months. Most of the feeders will be constructed by the boys in the school shops. Cash prizes will be awarded to the boys for workmanship and during the celebration of Wildlife Week additional prizes will also be awarded for feeders, box traps, birdhouses and other articles exhibited as evidences of practical steps in wildlife management.

J. J. Johnen, of McDonald, offered the suggestion that sportsmen's associations band the birds they release with chicken rings, using a different color each year. He also recommends advertising such banding activities in local papers next fall so that hunters will be sure to report any banded birds they shoot.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

HUNTING SKUNKS WITH LIGHT AND DOG

Q. May skunks be hunted at night with a light and dog, similar to raccoon hunting?

H.C.M.—Ulster, Pa.

A. Yes. It is permissible to hunt skunks at night through the use of a light of the type ordinarily carried in the hand or on the person during the open skunk season. It is also legal to use dogs for skunk hunting. The 1939 law does not permit the use of headlights or spotlights of automobiles for any night hunting, but hand lights as above may now be used on skunks, opossums and raccoons in season.

* * *

BOX TRAPS FOR RABBITS

Q. Can boys under the age of fourteen years set box traps for rabbits while living on the farm owned by their parents?

C.S.W.—R.D. 1, Freeport, Pa.

A. No. The Game Law no longer permits persons under fourteen years of age to box trap rabbits. The law giving them the right to take rabbits in this manner was repealed in 1937, and boys desiring to bag rabbits under the present law must do so with a legal gun or bow and arrow.

* * *

SIZE OF BIG GAME HUNTING PARTY

Q. How many may make up a party of big game hunters for either still hunting or driving?

R.G., Jr.—Norristown, Pa.

A. Any number. The law places no restriction upon the number that may join a party of big game hunters, but regardless of the number hunting in the party, the entire group hunting or camping together is limited to the killing of six deer and two bears a season.

* * *

USE OF .22 CALIBRE RIFLES ON SMALL GAME

Q. Please answer in your "Sportsmen's Queries" column: Is it legal to hunt small game with a .22 calibre rifle? Are our Pennsylvania deer called big game or upland game?

J.W.—Bethlehem, Pa.

A. It is legal to hunt small game with a .22 calibre rifle in Pennsylvania if it is not an automatic. However, under Federal Law, no rifles may be used on migratory game birds such as wild ducks, geese, woodcock, etc. These birds must be taken with a shotgun not larger than 10 gauge or a bow and arrow. Our Pennsylvania deer can be classed as "upland big game".

WATERFOWL HUNTER UNDER AGE SIXTEEN

Q. Is it lawful to hunt waterfowl without a migratory bird stamp by a person under the age of sixteen years?

G.S.—Meadville, Pa.

A. Persons under sixteen years of age do not require a Federal waterfowl stamp to hunt wild ducks and geese. However, in Pennsylvania they will require a hunter's license unless the hunting is done on the lands upon which they reside or those adjoining.

* * *

CHILDREN OF ALIENS BECOMING CITIZENS

Q. If a child is born in Europe, then the parents move to the United States and obtain citizenship papers in this country, does the child become a citizen or does he have to take out citizenship papers for himself at the age of twenty-one years?

E.H.—Ambridge, Pa.

A. A child born in Europe who comes to this country becomes a citizen immediately upon his parents becoming fully naturalized, providing the child is under twenty-one years of age when his parents attain citizenship. Under those conditions, a child need not take any individual action to become a citizen, as the action of his parents takes care of that for him.

* * *

COW BELLS FOR DEER HUNTING

Q. Is it legal to use a cow bell to hunt deer?

L. W.—Nebraska, Pa.

A. There is nothing in the Game Law to prohibit the use of a cow bell in connection with deer hunting. Any device of that nature used for the purpose of making noise to rout deer is, in our judgment, entirely permissible.

* * *

HUNTING DEER WITH A PARTY

Q. If a member of a hunting party arrives at camp after four deer have been killed and two more are killed after his arrival, neither of which are his, he has participated in killing only two deer. Can he still continue hunting?

P.R.—West Alexander, Pa.

A. Yes. A deer hunter may participate in the killing of six legal deer a season, only one of which he may personally kill. If a member of a hunting party arrives at camp after four deer have been killed, he may assist that party in the killing of two more deer; and if he did not kill one of those two, he may continue hunting deer elsewhere until he has either killed a deer personally or participated in the killing of four more deer.

USE OF DOUBLE BARREL SHOTGUN IN BEAR SEASON

Q. The Game Law states that big game must be killed with a rifle or shotgun using a single pellet or slug. Now that we have open season for bear during the small game season, is it permissible to use a pumpkin ball in one side of a double barrel shotgun and a brush load in the other barrel?

J.E.W.—Wilmerding, Pa.

A. We do not consider it a violation of the Game Law for a bear hunter to carry a single ball shell in one side of a double barrel shotgun, and a brush load in the other, so long as the hunter does not make the mistake of discharging the fine shot at a bear. A mistake of this kind would involve him in a penalty of \$100.00 for an illegal attempt to kill a bear. My personal opinion is that to hunt bear with a double barrel gun loaded as above is a rather hazardous practice which may very readily get the hunter into trouble, and we advise against it.

* * *

INDIVIDUALS HUNTING DEER FROM A CAMP

Q. My friend and I, who for many years hunted deer together by what might be called "still hunting", recently as a matter of convenience for food and lodging, joined a hunting club but we will continue to hunt as formerly and will in no manner participate in or cooperate with the hunting of deer with other members of the club. It is our understanding that it will be unnecessary for our names to be included in the roster which no doubt will be maintained by club members hunting together. Is this correct?

T.A.W.—Carbondale, Pa.

A. Under the Game Code, it is unlawful for any body of men **camping together** to kill or be possessed of more than six deer in one season. We therefore are of the opinion that if your friend and yourself hunt deer from the headquarters of a hunting club, your kill must be included in the six to which the club members hunting at that time are entitled, and your two names should appear on the roster. The fact that you two might hunt separately does not give you the right to kill two deer in addition to the camp limit taken by the other members, so long as you make your headquarters at camp at the same time the other members of the club are hunting from that point.

BRIAR SHY

« « « By Robert Osborne Steele

(Continued from Page 13)

avoided anything that looked like a thorn bush."

Although Sam said nothing you could see he was thoroughly disgusted.

"I know I'm to blame for taking a young dog in that stuff," Lem agreed subconsciously, "but that's not all. I practically ruined a good bird dog. The rest of that season and all next year I couldn't get Jack near a fence line or a clump of underbrush. He walked like he was stepping on eggs and he was so busy looking for briars that he couldn't find a bird for love or money."

"I didn't know it was as bad as that," Sam interrupted, shaking his head. "They tell me once a dog is briar shy you might as well shoot him for all the good he'll be on game."

"That's what I thought," Lem replied, "and it might have ended that way except for another dog and another briar patch. This happened the third season if you want to hear the rest of the story."

"Go on," Sam suggested, nodding.

"It all came about when Doc got a little cocker spaniel. Doc lived next door to us, you know. Well, that little cocker and Jack got to be close buddies. Everywhere that Jack went you would see the cocker. They got to swapping meals and it was nothing unusual to see Jack carry a bone over to the Doc for his friend and then lie down and watch while the little dog chewed and worried that morsel."

Lem paused a minute as he mentally assembled details.

"They even went off hunting together, like you and me, not on long trips understand, but over the fields and down in the valley and the way they worked it showed you that dogs have got human understanding. Each one took what he was good at and left the rest of the work for the other fellow. They respected each other. You know, just like one pointer will back up another."

Sam nodded agreement.

"What did they hunt?" he asked.

"Birds and rabbits," Lem replied. "Course they didn't catch much but they trained themselves pretty smart."

"One day I followed to see what was going on," he continued. "I watched them start out like they had a date. Trotting side by side they crossed the orchard and out to the grass field, then Jack took command. He quartered the field fast with the cocker trotting in a straight line down the center. Pretty soon Jack slowed up on a point. The prettiest thing you ever saw. Steady, like a statue, he waited and held that bird. Then I saw the cocker come running up. He sniffed the air sharp like and burst in on the bird. Of course it got away. It looked like woodcock to me. Anyway, up it came and headed right for cover. Smack into a briar patch at the fence corner it flew. But those dogs had it all figured out. Jack traced the bird right up to the patch and then he stopped. When the cocker came along he pushed into the patch like he should and out came the bird."

"It was great stuff," Lem explained. "They dug up rabbits and the same thing happened."

Always the cocker took over when the game ended up in a patch of brush or briar. After an hour or so they called it off and trotted back home, but what I saw set me thinking."

Lem changed the position of his feet before continuing.

"I explained the story to Doc and after that we always shot over both dogs. Jack was happy because I didn't force him into brush and the little dog was glad to be with Jack. That went on for the better part of that season and the arrangement worked out fine but I still had a dog that was briar shy and I couldn't work him without his little pal."

"I don't remember Doc's spaniel," Sam said thoughtfully.

"Don't guess you do," Lem replied sadly. "He was only with us that one season but he was a great little animal. He cured Jack of being briar shy but he didn't know he was responsible."

Sam looked up questioningly.

"It all happened late that same season," Lem went on softly, "when Doc and I decided to go up into the mountains for grouse. Up over Lemon Hill. It's pretty wild up there but game was plentiful and with Jack pointing them out and the cocker digging them out, we figured to have a pretty good time."

"After a few days gunning we decided to go down into the valley between Lemon Hill and Black Rock. We were walking along quiet like, sort of wending our way between thick brush and heavy woods when Jack suddenly pricked up his ears and let out a faint growl. Now that was unusual of course but we didn't pay much attention. Jack then edged over to the left and seemed to pick up a scent. The cocker followed right along. It was all according to Hoyle so we trailed along after them. Apparently this bird was running because Jack would go along fast for a while and then slow up cautiously. Nothing flushed up so we naturally figured the bird was a wise old one from several years back. The tracking took up through the light woods into some pretty heavy growth but Jack persisted in keeping on and the cocker hung on his heels. Finally we came up against some heavy underbrush and here Jack stopped. He was pointing straight ahead but something was queer

because he turned half way around to sort of keep the cocker from coming in."

Sam watched Lem carefully. He knew he was getting the story that folks had been vague about for years back.

"Well nothing could keep the cocker out of the briars and brush," Lem continued. "In he scrambled on his belly while we stood outside waiting for the bird to flush. Right away we knew there was no bird in that brush. A nasty snarl and a low, wicked whine came out together. We both made a jump for the brush but it all happened too quick. The cocker was as game as they come. He took right into that cat like it was every day business but it wasn't no even match. There was a wild swaying of brush and the snarl and hiss of the cat. As I say, we jumped together but Jack got there first."

Lem blew his nose loudly and kept on looking up at the rafters.

"The cocker had the animal by the throat but his insides were all over the place. Jack grabbed the cat by the back and it snapped like a twig. When it all quieted down you could hear the soft moaning of the little dog. Jack kept licking its face and nosing it around but we all knew it was too late. Finally Jack picked the cocker up by the neck and came out of the bushes."

Sam brushed aside his hair where it hung down in his eyes.

"We buried the ocker right there," Lem concluded, "and set a marker. You can see it yet if you go hunting over that way. Jack finds it every year. Those dogs certainly had a yen for one another."

"A game little dog," Sam agreed softly. "Too bad it happened that way. But you started to say it cured Jack."

"Yes," Lem replied, "but I can't figure out to this day what happened. All I know is that from that day on Jack went into briars and brush. Maybe he's looking for a stray mountain cat, I don't know, but hunt brush he does and he loves it."

Jack seemed to know the story was ended. He crawled up closer to Lem and looked up into his face, pleading for another chance at a mountain cat in a briar brush.



A part of the breeding stock of wild turkeys at the State's Wild Turkey Farm in Juniata County.

KEEP YOUR GUN IN SHAPE

(Continued from Page 12)

allow it to dry and rub it down. The gloss finish is put on in several ways. Most guns with this finish have a shellac base, some are varnish and some are special formulas which gunsmiths like to guard as a secret. The gloss finish may be brightened by an application of polishing wax. I have found that Simonize is good.

Regarding the Bore

"At that time, smokeless powder had just gained complete dominion over the field of shooting. Powders were nearing a point of efficiency that was satisfactory in most respects, but the priming was bad. We mean by this that residue left in the barrel by the burned primer was nothing short of common salt. This residue collected moisture and in no time a process of rust would set up. In the case of high power rifles where metal jackets were used, these jackets were composed of an alloy of copper and nickel, commonly known as cupronickel. When a hundred or more of these bullets were shot through a barrel, the shooter invariably experienced a case of metal fouling. The alloy used in these jackets had a peculiar way of leaving some of this metal on the lands of the rifle near the muzzle, each succeeding bullet left a little more until a decided lump of solid metal could be seen at this point and it was solidly fused there. These two things were the shooter's problem; to remove them required work and plenty of it.

"To those who may occasionally get some of this old ammunition and experience some

of these former troubles, I am stating one of the accepted methods that give relief:

"Water is the greatest solvent known to chemistry. We mean by this that water will dissolve a greater number of substances than anything else. To remove the salt deposits in the barrel, scrub it out with water. Place a shallow basin on the floor containing about a quart of water. Put a patch or a swab on the cleaning rod, insert from the breech end, place the muzzle in the water and pump the rod up and down through the barrel. The patch will act as a suction pump, thus causing a stream of water to follow the action of the rod. If hot water is used the resulting hot barrel will dry itself. If cold water is used, then it is necessary to thoroughly dry the barrel by pushing through a number of dry patches, finally passing a loosely fitted patch saturated with a good gun oil.

About Metal Fouling

"Metal fouling is not so simple; water will not dissolve it, Gun cranks have concocted a formula consisting of: Stronger ammonia, one fluid ounce; ammonium carbonate, 25 grains; ammonium dichromate, five grains, and ammonium persulphate, 50 grains.

"The first two items may be mixed and permitted to stand over a period of time, but the last two should not be added until ready for use. The best procedure is to plug the breech good and tight with a cork or rubber stopper and place a short piece of rubber hose over the muzzle, then fill the barrel full of the cleaning fluid and permit it to stand

for two or three hours. Empty the barrel, remove the cork and hose and scour the barrel thoroughly with a brass brush. This usually removes the fouling; if it does not, then go through the same process over and over again until the fouling completely disappears. Care must be taken that none of this cleaning compound gets into the action and the barrel must be immediately dried thoroughly and oiled.

"Sometimes the discharging of a few light loads is all that is necessary to remove the fouling; but light loads are only available to those who are equipped to reload their own ammunition.

"High-powered rifles which shoot metal-jacketed bullets should be cleaned first with water and dried; then use a good cleaning solvent such as Hoppes No. 9 and brush briskly with a brass brush, clean barrel with dry patches, and oil—pure sperm oil, anti-rust or fiendoil, is good. When shotguns show leading, give the barrel a liberal coating of No. 9, permit to stand for a few hours or overnight, then use the brass brush.

"And when putting your gun away for the season, coat the bore liberally with a good gun grease and store away in a cool, dry place, to be ready for another day afield in the future."

The Commission would like to be advised promptly of any change of officers during 1940, especially the names and addresses of newly elected secretaries. This information is necessary if organizations wish to be continued on the various mailing lists of the department. If the secretary is inactive, or for some reason or other unable to present the Commission's literature to the association, then and only then will the Commission, upon approval of the association, include the name of another club officer on the lists.

Heavy Deer Concentrations

(Continued from Page 10)

out the fence fails to indicate the very striking difference produced by the counts.

The count of stems over 5 feet indicate that the two areas were approximately the same at the time the fence was erected. If such a change can be wrought in four growing seasons, surely these large herds can only be maintained for a short while longer. There

is no reason to believe that the condition illustrated above does not extend over the thousands of acres in that timber type. The changes being made in the plant cover are detrimental to the deer herd itself and antlerless deer must continue to be taken until a reasonable balance is effected between their forage supply and the total population.

THE NUMBER OF WOODY STEMS BETWEEN ONE AND FIVE FEET IN HEIGHT INSIDE AND OUTSIDE FENCED AREA.

Species	No. of stems on ¼ Acre—Inside Fence	No. of stems on ¼ Acre—Outside Fence	Difference
Laurel	945	486	459
Sassafras	401	10	391
Chestnut	117	73	44
Aspen	35	0	35
Red maple	49	15	34
Chestnut oak	14	10	4
Red oak	2	0	2
Cucumber	1	0	1
Ilex (holly)	57	1	56
Witchhazel	63	41	22
Huckleberry	36	16	20
Maple leaf viburnum...	6	1	5
Azalia	68	6	62
Gooseberry	1	0	1
Honeysuckle	2	0	2
Raspberry	1	0	1
Total	1788	639	1149



Photo courtesy of Gordon Kriebel
A splendid protective color garment observed on a deer hunt in Powell's Valley.

IT HAPPENED AT NIGHT

(Continued from Page 3)

nearly jumped out of my pajamas when from behind me there sounded a medley of shrill growls liberally intermixed with wild screeches. I turned the light toward the melee. When the tawny form of a neighbor's cat went tearing off through the shrubbery, leaving the field to my dog and what he was so vigorously shaking, I stepped in and called him off. With a final shake he loosed his jaws and the limp, bedraggled form of a muskrat slumped to the lawn.

It was easy to piece the story together except for the presence of the muskrat. The cat was probably prowling about or lying in wait for a possible house rat or what was more likely the nesting birds that were on the place. I can just picture the amazement of that cat when the big muskrat appeared on the scene. But what was the muskrat doing in my backyard? And why was it so far away from the river from which it had apparently come?

On another night, after a session with the boys, I drove into the garage. After closing the doors I was startled by the sounds of several hollow thumps coming from a small open space between the hollyhocks at the side of the building and the tall privet hedge. Of course I guessed that rabbits were the author's of the thumps but it was somewhat unusual to hear so many at one time and so persistently.

Sliding back into the garage I grabbed a flashlight from a nearby shelf and cautiously stole outside again. Around the corner of the building I perceived six rabbits playing about in the open spot. Oblivious to the beam of light they continued gamboling until a series of thumps caused them to scurry for cover. In a few moments they emerged and took up the play from where they had left off. Next morning the Turk's cap lilies were found eaten to the ground, the painted daisies were sadly mutilated while a young, dwarf Bartlett pear was almost girdled. Animals must have ceremonials. Otherwise how can one explain the concerted play of those cottontails.

Perhaps the most amusing and exciting nocturnal episoding of all was one in which Snappy (the dog), and a huge skunk were the chief actors.

Just before we hie ourselves off to bed we permit Snappy outside for a final sally at the evergreens. Usually this takes only a few minutes and then he's back again ready to hit the hay.

On this particular night when five minutes had elapsed I went to the door and whistled. Ordinarily he literally comes tearing in when called, but this time there was no response. During the quiet interim following my whistle I heard a faint whine. It was Snappy alright, but the whine was so unlike any he had ever uttered before. Grabbing the light I dashed outside and made for the shrub border at the end of the lot.

"Holy smokes!" I gasped upon taking in the situation.

There at the edge of the border a gigantic skunk uneasily shuffled along. And when I say gigantic I mean exactly that, for not-

withstanding its much shorter legs it was fully as tall as the dog. Snappy, who had never before seen one of the creatures, trotted gingerly along at its rear, all the while uttering puzzled little whines that clearly conveyed: "What manner of creature is this?"

Why that skunk didn't clear her decks and let go that terrible stern gun is a mystery to me. She merely ambled on, her tail at half mast, seemingly oblivious of the dog's presence at her heels.

When I collected my wits I called to the dog in as calm and collected a manner as it was possible for me to command. He merely glanced in my direction and then began teetering on his legs as a dog will when it wants to play. At this display of exuberance the skunk's tail went higher.

The situation was desperate so I called again, this time sharply. It was easy to interpret Snappy's reasoning. As plainly as words his actions indicated: "Well, if I must leave this strange animal, first I'll take one good sniff." Whereupon he swiftly closed in while I stood rooted to the spot.

With the hope of decoying the dog from his unsavory companion I began to simulate running. At the same time I called loudly and imploringly. But it did not work. Snappy suddenly gave a choking cough and stopped dead in his tracks. If any animal ever registered amazement, then, he did. However, the skunk had merely fired a light shot across the dog's bow. Nevertheless it was enough and Snappy shamefacedly staggered to the showers.

Next morning the absence of the two leopard frogs that lived in one of the lily pools explained the skunk's nocturnal visit.

Whenever I chance to be up in the night I never fail to glance down on the black opacity of the backyard and wonder what may be transpiring under its mantle of darkness. Are the cottontails comfortably hunched against the clumps of Siberian iris or are they avidly munching the painted daisies? I do know however, that the moles and the shrews are fighting their perpetual battles with the earthworms and grubs. Their tell-tale upheavels are always in evidence both on the green of the lawn or under a light mantle of snow.

On some nights if I listen carefully I can hear the song sparrow that roosts in the honey suckle vine mutter in his sleep. On warm spring nights the shrill monotony of the tree frogs' cries enhance the atmosphere of loneliness and mystery and furnish the harmony to the deep bass of the lone bullfrog who lives in the pool back of the garage.

On moonlit nights one looks in vain for these denizens of the night for then they ply their activities in the shadows of the shrubbery. Once in a while an audacious rabbit will rock across the expanse of silvery lawn as it remembers a particularly succulent clump of herbage on the other side of the yard.

Nature study in your backyard. It isn't as ridiculous as it sounds. If you scoff at the idea you're probably one of those pseudo-Nimrods who annually goes to the mountains and shoots his deer. Could you bag your deer if it was necessary to hunt for it? Could you read the signs that are as plain as a printed page to one that knows? A close and observant student of Nature is first and always a good outdoorsman. He possesses that certain something that distinguishes the sportsman from a mere butcher.



Photo courtesy of Gordon Kriebel

Kenneth Wilson, Game Land Technician, kneeling beside an albino doe killed illegally in Powell's Valley, Dauphin County.

THE STARLING MENACE

(Continued from Page 7)

Readers, these word pictures cannot give you but a faint idea of what it is really like to walk or, I might say wallow, through this tangle of noxious weeds with the wind moaning through the skeletons of these once beautiful trees. Really it gives one about the same sensation we get when looking through the undertaker's show-rooms.

Here is what you can depend on right now, starlings are not weed-seed destroyers but weed-seed distributors and killers of valuable trees.

Starlings, why the last year I have worn nearly all the buttons off my wishbone while lying on my stomach with a pair of high-grade field glasses, studying how to control them. At last I have a net built known as the Scotch Success Starling net or trap. In the first place it is Scotch because it catches so many starlings with such a small amount of bait. In the second place it is Scotch because it is a success, and at present I believe we have them slightly checked, and fully 1,000 purple martins are coming and again roosting in the maples. During June and July we caught and buried over 25,000, but owing to feed being so plentiful we are not catching many right now.

My personal findings of the starlings up to date are that they are driving out some of our best weed-seed and insect destroying song birds, such as the Kentucky cardinal and loveable mourning doves, purple mar-

tins, woodpeckers, and so forth. They are the worst weed-seed distributors America ever knew; they carry deathly chicken diseases. They are very destructive to fruit and vegetables and they are death to the

trees where they roost. Last and worst of all they are already lowering the general public opinion and appreciation of bird life.

In closing let me earnestly say to one and all, if the starlings multiply the next three years, as they have the last three, they will be the worst pest Ontario has ever met with; but remember, men can control them, so let every Canadian do his duty.

Remember, the starling is everything but a newspaper controversy joke.



Thousands of Starlings roosted for years on the Capitol Dome at Harrisburg. They were subsequently routed by gun shot.



Starlings multiply rapidly. Here is a mother about to fly to the nesting cavity with a choice morsel for her young.

His Majesty the Ringneck

(Continued from Page 11)

old cocks with a grouch at the world and a taste for meat may be guilty of the deed, but we should not condemn the entire tribe for the failings of certain members. The writer has, for the past three years, raised a number of cottontails in yards where ringnecks were confined without any trouble, except that the rabbits seem to delight in running over the birds at every opportunity. I have also been able to observe a large area that is plentifully stocked with both and have never found one instance of rabbits being bothered by

pheasants. The birds there are absolutely wild and are never fed anything except when the ground is covered with snow. Be that as it may, the ringneck is here to stay as a game bird for the thickly populated sections of our farming communities and from a handful of birds imported from China about sixty years ago he has spread almost from coast to coast in our northern tiers of states. This year there will probably be more pheasants killed in the United States than there are in the whole of China.

FALL FOODS OF GROUSE

(Continued from Page 5)

of beechnuts, as reported by fieldmen in 1938. Although the analysis presented in this paper gives good indication of the foods taken by grouse during the hunting season of 1938, it is highly important and desirable that a more even spread of data be obtained by securing the crops of birds—taken during periods other than the hunting season—for a number of years, in order that the year-round food requirements of the Ruffed Grouse can be determined.

FOX HUNTING NOTES

THE Chattanooga Times tells of an argument about how far a hound can run. The One Gallus Foxhunters' Association applied to Col. Chin. "Col. Chin and his friends got out the horses and the hounds and struck out for the ridge. Soon after they reached the crest there came a sudden throaty bay from one of the pack—a sound which to fox hunters is as welcome as the thought of food. Immediately, they were on the way, spurring their mounts in pursuit of the hounds which were running the fox westward down the ridge. On they sped through the night, jumping small branches, bursting through the woods and fighting to keep up with the swift chase. Westward, straight westward they were running. At times one standing in the valley below could follow the drama of the run silhouetted against the moonlit sky. First the fox, shooting desperately out of a thicket. Then the dogs, splitting the calm air with their penetrating war cry. And finally the three mounted men—galloping over the rough terrain attempting to determine just how far a good hound can run. And always, they were running toward the west."

This One Gallus Foxhunters' Association is merely one of thousands throughout the United States holding their annual trials and bench show, and having real sport. In fact I was never more disappointed when business prevented my attending the National Foxhunters Association's trials this season where I was honored by being asked to judge.

THE MAIL BAG

"I would like to see a write up in your paper by a dog lover who knows the laws on dogs in the States of Ohio, West Virginia and Pennsylvania.

"The question is, what has been done and what can be done to stop the enormous thefts of hunting dogs, especially a short time before the opening of the season. This year I am one of the sad victims.

"On October 23rd, one week before the season opened, I had my best pal, a large male Irish Setter, stolen between 1:00 and 2:30 P. M. He was five and a half years old and for four years had never been outside of the house at night, but slept beside the bed of an invalid young man. During the day he traveled with me in my car and watched my tools and materials.

"His color was solid red, long hair on legs, ears and tail. His name was Sunny Boy, a very friendly dog with children and grown-ups. We certainly miss him.

"In my unsuccessful search for this dog I was surprised what really has been going on, and how cleverly it is done. I am told

« « By W. Newbold Ely, Jr., M.F.H.

"But we must catch up with the three men from Kentucky following the chase westward. They must be several miles from Lexington—their starting point—by this time. Col. Chin and his pals kept right on the heels of the hounds and the hounds refused to lose the sly fox. On they went, until elongated pink rose petals grew up suddenly out of the bushes of yon horizon. The fox wouldn't turn—kept heading west. The hounds wouldn't give up—nor would the men. It began to get warm—and then hot. But the chase remained hotter. Finally, about 10 o'clock in the morning, the colonel shouted back to his weary companions:

"We'd better stop at this little hamlet up here and see where we are. We must be a good piece from Lexington."

"Exhausted, as they hauled rein in front of the little country store, they stopped to catch their breath while the fox and the hounds continued on their run, the baying getting farther away with each second wasted.

"Suh,' the colonel inquired of the store clerk, 'how far are we from Lexington?'

"Lexington what?' the clerk asked.

"Why Lexington, Kentucky, of course,' the colonel answered.

"Kentucky, hell,' the clerk came back, 'you're in Texas.'"

that they have a dog exchange in other neighboring states where they exchange dogs.

"Is there, or would it be possible to create a bureau to which we could report all dogs stolen with their marks of identification and a system established by which the thief could be run down and properly punished? I think if that was possible it surely would reduce this business and the sportsmen would be happier.

"It might be possible to use a small percentage of the hunters' license money as without dogs we would have less hunters, therefore less returns from licenses. Possibly a questionnaire in your paper asking the sportsmen who have lost dogs, to fill in the following information: breed, date lost, description, location, also did you buy a dog, what breed, age and from whom did you buy it?

"By tabulation it might show the time to put on extra vigilance, and who is selling these stolen dogs.

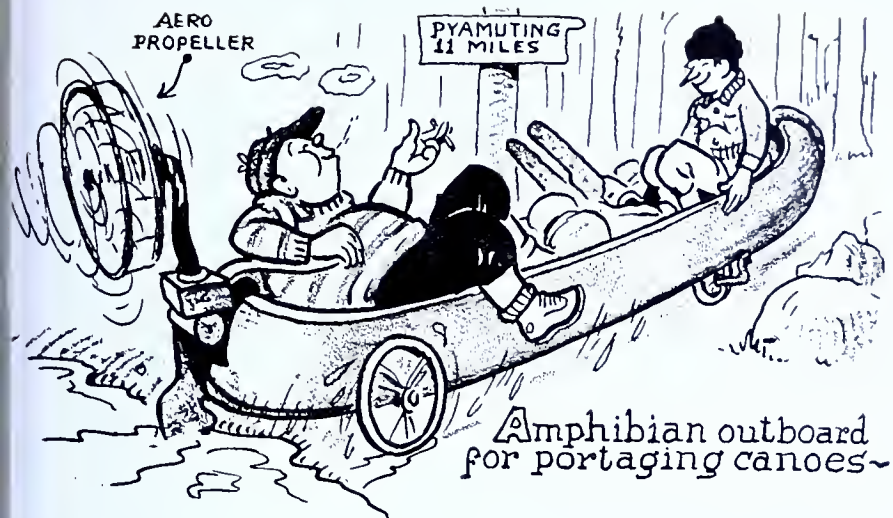
"Let us find out what the Sportsmen's Organizations of the States think about it."—G. H. Altstadt, 623 Washington Avenue, Carnegie, Pa.



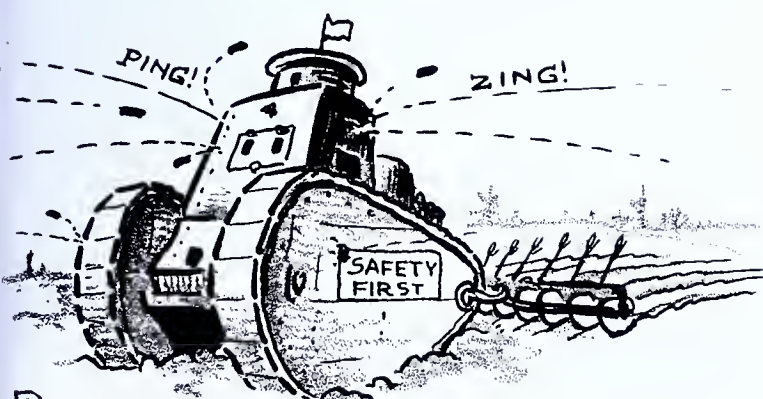
Thousands of cottontail rabbits were released in depleted areas of the Commonwealth during December. Here is a group of sportsmen from Upper Dauphin County preparing to distribute their allocation of rabbits under the supervision of Game Protector Mark Motter.



Signs like these are well respected by sportsmen. This one appears at the entrance to State Game Lands in Jefferson County.



DEER SLAUGHTER on the highways must stop! - This deer picker-upper will do the trick~



Remodeled tank for farm work while careless gunners are in action~



Telescopic contraption for distinguishing tame from wild fowl~

END OF THE SEASON



Courtesy Elks Magazine

ALL BUT TO REPORT YOUR GAME KILL

PENNSYLVANIA GAME NEWS



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By PHILIP B. SHARPE



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AND

RUSSEL T. NORRIS



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By

W. NEWBOLD ELY, JR., M.F.H.



OUR NATURAL RESOURCES

A recent newspaper account stated that the German Government had ordered all its huntsmen to be ready to supply deer from the German forests in case the army needed them for food. This cast an interesting sidelight on the value of our own natural resources. We are far richer in game, fish, fur-bearers, and other natural resources than the average person realizes. An estimate of the positive value of wildlife on the Nation's national forests alone, including the value of game and fur, destruction of insects by birds, value of fish, the amount spent for hunting and fishing licenses, and that spent by hunters and tourists, amounts to well over a billion dollars.

Pennsylvania perhaps has a more wide diversity of natural resources than any other state in the union, and probably leads in the numbers and species of wildlife. The average annual value of its game-kill is estimated conservatively at about six million dollars, and the annual fur take ranges anywhere from a million to a million and a half under present market conditions. This amount, to say nothing of that spent by hunters for gasoline and oil, foodstuffs, hunting equipment and clothing, cigars, cigarettes, tobacco and many other luxuries, which is said to be well over twenty-five million dollars a year.

There are probably more deer in Pennsylvania than in the whole of Germany. The total number of big game animals including deer of the various species, elk, moose, caribou, antelope, bears, etc., in the United States amounts to almost six million. Of this number five and a third million constitute deer. It is interesting to note also that of all the deer in the country Michigan, Pennsylvania and California, in that order, lead all states; likewise they lead all states in the number of big game animals within their boundries.

The economic, esthetic and recreational value of our resources cannot be estimated in dollars and cents. They serve as a bulwark during war, they provide recreation during peace, and economic stability during depression. For these reasons, therefore, they deserve the wisest management we can give them.

NORTH CAROLINA CONTROVERSY

Pennsylvania sportsmen have followed the recent controversy on the Pisgah National Forest in North Carolina. Many have inquired as its possible effect here.

When the North Carolina legislature passed the necessary enabling act in 1915 to allow the Government to buy National Forests, it stipulated the Government might manage the game on any lands so bought.

A few years ago the U. S. Forest Service began holding deer hunts under Federal permits on the Pisgah Forest to remove surplus animals. They also shipped live deer to other states. Later they conducted these hunts under a cooperative plan with North Carolina, but the State objected to the shipment of live deer. They held that other National Forests in North Carolina needed stocking, and no live deer should be shipped out of the state, at least not without state consent.

Federal authorities proceeded to ship deer out of the state, arrests followed, and the case got into the Federal Courts. While it was being argued, we are informed Federal attorneys held that under a regulation of the Secretary of Agriculture, adopted in 1934, the Federal Government could set up its own hunting and fishing rules, permit fees, etc., on any National Forest in the United States, regardless of state law and without state hunting or fishing licenses, and that the foregoing provision in the North Carolina enabling act was of no immediate importance.

North Carolina lost the case, Judge Meekins perpetually enjoining state officials from enforcing the State Game Laws against government agents. We understand it will be appealed to the higher courts.

This controversy seems to have developed solely due to a lack of understanding. Here in Pennsylvania, on the Allegheny National Forest, there has always been the most friendly co-operation between the Forest officials, the State Game Commission, and the Board of Fish Commissioners. The only exception was one minor instance involving porcupines, which was promptly corrected.

All National Forest Lands in the East have been purchased under enabling acts by the states. In Pennsylvania our original act giving consent to acquire lands for forest purposes was passed in 1911, but it contained a recapture clause under which the State could have taken over any lands so purchased upon payment of the cost, plus 2% per year. The Federal Government refused to buy lands under that restriction, and in 1921 the Legislature eliminated the recapture clause. When that amendment was pending before the Legislature, Mr. E. A. Sherman, Associate Chief of the United States Forest Service, assured the Legislators and State officials present that at no time would the Federal authorities attempt to exercise control over the game and fish on any National Forest in Pennsylvania. However, no specific provision to that effect was written into the law.

From the foregoing it will be observed the North Carolina case has no immediate bearing on Pennsylvania. However, if at some later date there should be a difference of opinion about the management of game and fish on the Allegheny Forest, Federal authorities might attempt to assume control. In view of the definite pledge given when the State consented to the purchase of lands, and the splendid cooperation which prevails between the Forest Service and the State, such a situation should never arise.



THE GROUNDHOG

By GEORGE W. HENSEL, JR.

Grand Potentate of the Slumbering Groundhog Lodge

He doesn't boast about his looks, his knowledge or his many books.. No weird machine, no ponderous tome is found within the groundhog's home. No clashing cymbals, rolling drums herald his presence when he comes, to celebrate in modest way his own especial holiday.

Quiet, reserved and shy is he, but none so very wise there be, unlike as differs white from black, that party of the zodiac, who used, as every one may see, a most complete menagerie, e're while upon his business bent, he met the awful accident.

The groundhog's methods are not new, are well established tried and true, and date back like his family tree, unto remote Antiquity. If fog and cloud

obscure the sun, he knows that winter's course is run and folks will shortly till the ground, the tax collector 'll soon be round, the supervisor 'll rub his eyes, and gather mud for making pies, for Spring's already on the way, with April first and moving day.

But if the sun shies bright and fair there's snow and frost still in the air. Then ladies clap their hands and smile—they've six weeks more to be in style, to wear low shoes, and cool their knees, and bare their wish bone to the breeze. While those who deal in coal and wood will find their business brisk and good.

The groundhog knows this all, so he, outlines his work accordingly. A sensible and splendid plan which should appeal to every man.

BABES IN THE WOODS*

by

PHILIP B. SHARPE

Avoid wearing white if you don't want to get shot, and make sure your target's not another hunter.

EACH year, when the hunting season expires and we look back on past events, we find that a lot of good souls expired along with it. We list these as accidental deaths and charge it up to that mystic word "accident."

Mister Webster who wrote that rather disjointed dry reading volume we call a dictionary says in part:

"Accident—an event that takes place without one's foresight or expectation; chance; contingency, often of an unfortunate character; casualty; mishap."

Take your choice!

For the most part we would like to disagree with Mister Webster. Accidents do not happen—they are caused! The sad newspaper reports of grown up babes in the woods who join their ancestors are worthy of analysis. Accordingly, the writer undertook a survey which brought home very definitely the conclusion that accidents are caused, and that they are for the most part due to negligence, carelessness, and inexperience.

Did you ever shoot a fellow? Lots of people are doing it. Perhaps there is a lot of sport in it. I don't know. I've seen hunters carried out of the woods, victims of accidental deaths. I've investigated many of them personally and so far, I've yet to find any chap who killed another who really got any sport out of it.

The newspaper headlines not long ago ran: "New Jersey Hunter Shoots Companion Through The Head—Mistaken for Bear."

Kill him? Well, if it didn't the undertaker played a damned dirty trick on the party of the second part. This story looked interesting so we investigated it. It seems that a chap out in Ohio got in touch with an old friend then living in New Jersey and talked him into a hunting trip into Maine. The two of them got together and went into the woods. One lad went home in a long box, traveling in a baggage car instead of a coach.

The writer undertook an extensive survey of hunting accidents throughout the United States which required more than eight months and as many as a half a dozen letters in correspondence with the Fish & Game departments of every state in the Union. The results of this investigation were quite startling.

Of the forty-eight states consulted, the Fish & Game departments, if there happens to be any, in a few of these states failed to respond to at least two personal letters. Thirty-eight states reported and these ran from a complete story to very enlightening information that they "kept no record of

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hunting accidents and were unable to give any information concerning them."

As a firearms technician, writer, investigator and hunter, this here chap scribbling these few lines has observed some queer happenings in the woods. He has noticed accidents which could not have been caused by anything other than pure carelessness. He has seen hunters handling guns in the woods as though they did not have the slightest idea as to what they were carrying. He has seen them shoot at noises rather than game. It is small wonder that somebody gets "bopped" every once in a while.

It's quite a thrill—this hunting game. Each fall some 15,000,000 Americans dust off their guns, oil them up and sally forth into the woods to seek the elusive wildlife. Well, maybe I'm wrong. Probably a good percentage of these hunters do not dust off their guns or do not oil them. To them, the gun is

WILDLIFE WEEK

This year Wildlife Week will be observed from March 18 to 22 inclusive, and elaborate preparations are being made by conservation organizations all over the country in order to make it a successful event. Wildlife has a combined economic, esthetic and recreational value that cannot be estimated in dollars and cents, and Wildlife Week presents an opportunity for every citizen of the state and nation to show his appreciation of this great natural resource and to demonstrate in some way or another his interest in safeguarding it.

Pennsylvania's sportsmen's associations have always been among the first to rally to any state or national conservation cause, and the Commission hopes they will again demonstrate their enthusiastic interest during the week of March 18 to 22. In planning any programs for that occasion the Commission will gladly cooperate in every way possible.

of no importance. It just merely goes along on the trip.

Were you ever shot at in the woods?

This writer has been. It's a swell sensation. You don't hear the boom of the gun until later. You don't hear a "z-z-z-z-ing" of the bullet as the fiction story writers like to describe. Neither do you hear a whistle, shriek, wail, howl, or what have you. All there is, is a sharp crack and sometimes a thud, depending upon whether the bullet strikes a tree near you or just merely sails by. If it doesn't happen to connect with you

and you don't hear it anyway, it usually doesn't matter a great deal.

This bullet shot at the writer was chopped out of a large birch tree after passing completely through one having a diameter of approximately five inches and sticking in another eight feet beyond. He still has that bullet in his collection—a .45/70 405-grain soft point number.

When you hear that peculiar sound you usually get down on your belly—damned quick! You forget all dignity; you instinctively know there is something rotten in Denmark.

And, brother, you're scared!

In a minute or so you commence to get your wits about you and fear turns to anger. At that moment, you'd feel like committing murder if the chap that fired at you were within sight. You remember and use cuss words long since forgotten and your day in the woods is spoiled. Incidentally, your opinion of certain hunters does not increase greatly with experience.

But there is more to it than just that. Life is a peculiar sort of proposition. You begin to feel that the facts of life should be told to certain hunters but they rarely heed them.

The sad part of this hunting accident problem is the generally accepted and totally incorrect attitude of hunters that "it can't happen to me." Why not?

An analysis of these hunting accident reports, submitted by such states as were able to compile any records, brings out one important point—there are two types of accidents: One in which the hunter shoots himself and one in which he shoots someone else.

In either case, it can be more or less attributed to carelessness, although there are a few pure accidents which Brother Webster would classify as "chance." In assembling these reports, Pennsylvania, as one of the best hunting states in the country, supplied the most complete detail. The 1938 figures are being tabulated but reports are by no means complete, although Pennsylvania did supply some practical data on the hunting year of 1937. These figures show that a total 39,347 deer were legally shot and registered. In addition, there were 537 bear, 3,074,820 rabbits, 1,056,408 squirrels, 177,683 grouse, 371,526 pheasants, 16,758 water-fowl, together with a wide collection of miscellaneous game reaching a total game bag of 4,737,079 and weighing the sum of approximately 12,356,726 pounds.

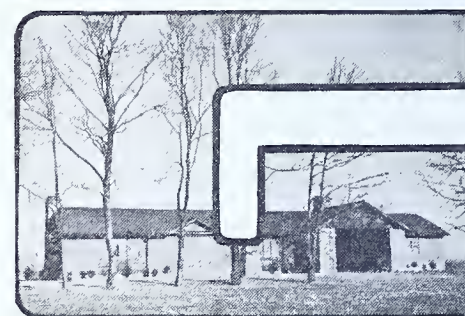
This is all legally taken game. The amount illegally taken will never be known.

In that same year of 1937, Pennsylvania issued 601,349 hunting licenses or approximately one-tenth of all hunting licenses

(Continued on Page 24)

A Year of

A resume of the outstanding
activities of the Commission
for the year 1939



THE progress made during the past year has in many ways been outstanding. Time and space will not permit a report of all the accomplishments during 1939, therefore only the highlights are covered.

Land Purchase Program

In the first place sportsmen will be happy to learn that many acres of fine game lands were acquired. Of 288 land offers totalling 58,853 acres submitted to the Commission for consideration last year, 103 options totalling 27,350 acres were accepted and purchase contracts entered into. Also, boundary line surveys and title examinations were made for a total of about 30,000 acres.

Title for 80 tracts totalling 27,839 acres of State Game Lands were vested in the Commonwealth for the use of the Commission, bringing the aggregate area of such lands to 620,677 distributed in 55 counties. The Commission also purchased two farms containing 180 acres adjoining the Loyalsock Game Farm in Lycoming County.

Splendid progress was made in the leasing program. Ten auxiliary game refuge projects totalling 1,997 acres were added bringing the total at the end of the year to 64 projects including 131,467 acres.

Twenty-five additional cooperative farm game projects including 57,642 acres were established, thereby increasing the total of these popular undertakings to 83 projects comprising 1,584 farms having an area of 131,467 acres. They are located in 25 of the agricultural counties of the state.

Twenty-two new propagating areas containing 6,803 acres were set up, bringing the total to 74 such projects comprising 27,079 acres.

Two new dog training preserves, totalling 1,785 acres were also set up in Lycoming and Forest Counties.

A new feature dealing with the leasing program included a Special Wildlife Refuge plan under which regularly organized sportsmen's associations execute agreements with landowners covering the hunting privileges on their lands. Although the plan only became effective late in the summer, 30 projects totalling 17,958 acres were established.

By referring to the following table you will appreciate immediately the magnitude of the land program which the Commission is now administering for the sportsmen. The summation includes those owned, leased, or under nominal control of the Commission, the aggregate of which totals 987,017 acres.

Classification	Acres
State Game Lands	
Title vested in Commonwealth...	620,677
Under contract for purchase.....	47,490
Primary Game Refuges	
On State Game Lands	59,694 (a)
On State Forests and other public lands	62,216 (b)
Auxiliary Refuge Projects (General Classification)	56,646
Cooperative Farm-Game Projects..	131,467
Archery Hunting Preserves	1,985 (c)
Dog Training Preserves	2,935 (d)
Game Propagation Areas	27,079
Game Propagation Farms	2,314
Special Wildlife Refuge Projects...	17,958

- (a) Included in the 620,305.4 acres of State Game Lands above.
- (b) Plus 18,235 acres of the Tobyhanna Military Reservation open to public hunting, and included in the total 987,017 acres.
- (c) One of 1000 acres on State Game Lands and included in the 620,305.4 acres above.
- (d) One of 985 acres on State Game Lands and included in the 620,305.4 acres above.

Management of Game Lands

Perhaps the most important program of the Commission in recent years has been the management of game lands. These lands are maintained in every way possible and wildlife habitat on them is approved with funds available, and with the help of relief agencies, in order to make them more valuable for hunting purposes.

During the past year more than 1,300,000 evergreen seedlings were planted in strips or clumps to provide better cover for wildlife. In addition almost 1,000,000 trees, shrubs, and vines which furnish food for wildlife were planted on State Game Lands. More than 175,000 cuttings of wildlife food producers were included in this planting.

On many tracts of State Game Lands the forest growth has reached a stage where it has begun to shade out the under story of tree and plant life which provides browse

PLANT A GAME FOOD PLOT

The Game Commission will again have made up for planting during 1940 the Pennsylvania Game Food Plot Mixture. Bids are now being secured from reliable seed houses and the one making the lowest bid will be requested to make the material available to sportsmen's organizations and individuals who desire to use it for planting plots to furnish additional food for wildlife. Anyone interested in securing some of this material should write to the Game Commission, Harrisburg, for further information.

for deer and food and cover for other forest wildlife. On these areas various kinds of cutting operations were conducted to improve them for wildlife, and at the same time to make them produce a revenue from wood sales wherever possible. Several thousand acres were improved in this way, and approximately \$5700 was received from the sale of material cut.

It is recognized that the wild apple trees in the mountains provide a valuable source of game food. These trees furnish food not only in the form of the fruit, but grouse are fond of the buds in the wintertime. Approximately 18,000 of these trees were pruned during the year and in many cases the surrounding growth was removed in order to permit sunlight to enter and stimulate the fruit production. The pruned branches were piled to furnish food for rabbits and deer.

Thousands of artificial retreats and shelters, including winter feeding shelters, were built on many tracts of land.

Fifty miles of worm fence were built on the larger cleared areas of State Game Lands in order to break the fields into smaller units. Game food producing shrubs and vines were planted along these fences.

Approximately 600,000 waterfowl food plants with an estimated value of \$9,000 were transferred from water areas where they were not desired to the Pymatuning Wild Waterfowl Refuge in order to improve conditions for waterfowl there. The only cost to the Commission was the collection and transportation.

There were almost 700 game food plots within an area of over 600 acres planted to grains on State Game Lands and Refuges. In addition about 225 acres of State Game Lands were planted on a share basis by neighboring farmers. The Commission's share approximated 5,000 bushels of grain which was used to feed wildlife in other sections during winter, and which is exclusive of large amounts of the grain left standing for wildlife in the vicinity.

Sportsmen's organizations, interested individuals and others planted during the year approximately seven and one-half tons of the Commission's game food plant mixture. This amount of mixture should yield approximately 400 tons of game food under normal conditions.

A great many additional refuges exclusive of those on farm-game projects were established. These were carefully selected and were located principally in sections where it was necessary to give some additional protection to wild turkeys, grouse, and ringneck pheasants.

Extension of the Cooperative Farm-Game Program also called for the establishment of a great many additional refuge units, posting safety zones, and protecting the projects during the hunting season. From all indications farmers and hunters were again very well satisfied with the results of this cooperative undertaking. Approximately 900 refuge units averaging in size a little less than 8 acres each were established on farm-game refuge projects, and it was also necessary to post more than 1600 safety zones around the buildings of cooperating farmers prior to the gunning season.

A great deal of the improvement work on State Game Lands during the year was carried on with the assistance of W. P. A. Approximately 40 projects operated almost continuously and over one million dollars of W. P. A. funds was spent during the year in improving these State Game Lands. Valuable help was also received from the N. Y. A., and crews of N. Y. A. boys are still constructing fire trails, marking boundry lines, walling up springs, building feeding shelters, and doing other work of this kind under the supervision of Game Land Managers. Two C.C.C. Camps are still working on State Game Lands and have done much valuable work.

The Pymatuning Museum, which was completed in the fall of 1938, attracted many people last year. Thousands visited the Museum to study the several hundred mounted specimens of waterfowl which are on display and to observe the live birds on the refuge. Many plantings of shrubs and vines which would be fairly attractive ornamentally and at the same time furnish food and cover for wildlife were made around the Museum and on the area whereon it is located.

During the year approximately 50,000 copies of bulletin No. 16, "Wildlife on the Farm" (Continued on Page 26)



A Study of Pennsylvania Woodcocks*

EARLY October is an important season for many Pennsylvania hunters because it is at this time that the American Woodcock (*Philohela minor*) season usually opens. The anxious bird hunters are eager to try their skill and to improve their shooting for the coming grouse season. Although the woodcock does not fly so fast as the ruffed grouse, its twisting flight through thickets of alder and aspen offers a good test for any marksman. Woodcocks are not sought by the majority of hunters in Pennsylvania, but they are becoming a more important game bird and their admirers are steadily increasing. Kill records show that in Pennsylvania an average of 40,000 woodcocks is taken by sportsmen each year. This is not a tremendous kill, but it shows the importance of the woodcock as a game bird in the State.

The woodcock is a migratory shore bird, and the shooting regulations for this fine game species are established by the U. S. Bureau of Biological Survey. This bird winters primarily in South Carolina, Georgia, southern Arkansas, and the Gulf States. It is known to breed over eastern North America, from Newfoundland west to Minnesota and as far south as central Florida and southern Louisiana. Most of them, however, breed in the Northern States, with the heaviest concentrations occurring in Maine and the Maritime Provinces of Canada.

Information on woodcock migrations is fragmentary because comparatively few have been banded. It is known that they migrate at night, traveling either singly or in pairs. They fly at low altitudes, and occasionally large numbers are killed by flying into obstructions, such as lighthouses along their coastwise migration route. They are among the earliest birds to arrive in the Northern States during the spring migration. Woodcocks begin to arrive in Pennsylvania during the latter part of February, and by the middle of March many males may be heard on their singing grounds. Most of these singing birds probably remain and breed; the rest of the flight goes farther north. At what time the breeding woodcocks in this State begin the fall migration is not known, but it is likely that they leave in October. Birds from the North are passing through Pennsylvania during October and November, and migrating birds undoubtedly provide some of the best woodcock shooting for the Keystone State.

Though the breeding range of the woodcock covers nearly all eastern United States, Pennsylvania is not generally considered

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good breeding territory. Woodcocks, however, were found breeding in a fairly heavy concentration near State College, Centre County, Pennsylvania, in the spring of 1939. Whether other parts of the State maintain like concentrations of breeding birds, remains to be determined; but it is known that they breed, to some extent at least, over most of the State. Pennsylvania is indubitably of some importance as woodcock breeding territory, possibly of much more importance than has been supposed.

The woodcock diet (Aldous, 1939) consists of about 96 percent animal matter, of which earthworms make up 86 percent and insects—such as beetles and flies—make up 10 percent. Seeds, probably taken accidentally with earthworms, form most of the small amount of vegetable matter consumed. It has been suggested that seeds from the gut of earthworms probably accumulate in the woodcocks' stomachs (Aldous, 1939). Study of the food habits of these birds shows why woodcocks are not found where earthworms are not abundant. Unquestionably, this food item is one of the most important factors governing their distribution.

It may be well to review a few of the facts known about nesting woodcocks. Their nests are almost always placed on the ground, but resting sites may vary considerably. Wooded areas are most commonly used; open grassy fields and damp areas may also contain nests. Pettingill (1936) cited several nests that were surrounded by



A portion of the barrens utilized by woodcocks.

by
 Alan T. Studholme**
 John D. Beula**
 and
 Russell T. Norris***

water. Woodcock investigations in Maine revealed that nests were usually placed near singing grounds, the average distance being about 100 yards. Nests are relatively simple, consisting of natural depressions—often very shallow—sparsely lined with the accumulated vegetation found in the vicinity (figure 1). The usual number of eggs is four, although three or five may be found occasionally. Incubation, which lasts about 21 days, is generally thought to be carried on entirely by the female.

Woodcock young are led from the nest by the female as soon as their feathers dry, and before long they are actively engaged in the search for food. Their growth is rapid, and short flights may be made within 15 days after hatching. By the time the Pennsylvania woodcock hunting season opens, adult and young birds cannot readily be distinguished.

Most game birds have some definite habitat, or at least they may be expected in or near certain cover types that constitute their range. This hardly pertains to woodcocks, for they may be found in many different types of cover, especially during migrations. Of course, there are certain types of environments that they prefer. Among favorite types in Pennsylvania are alder swamps in the bottom-lands and aspen clumps on hillsides with dense undergrowths of briars, goldenrod, and weeds. The concentration of breeding birds in Centre County, however, was not found in any of these preferred types, but in the scrub oak-pitch pine forest type known locally as the "Barrens" (figure 2). This concentration of woodcocks was especially interesting because of the great differences between this environment and that which they usually occupy as breeding territory.

Because of this unusual occurrence of breeding birds, a study area was set up and a woodcock investigation was inaugurated. This research was carried on under the supervision of Dr. Logan J. Bennett, U. S. Bureau of Biological Survey; Dr. P. F. English, Department of Zoology and Entomology, The Pennsylvania State College, and Dr. W. C. Bramble, Department of Forestry, The Pennsylvania State College.



A woodcock nest found in the barrens.

The study tract in the barrens was 5,200 acres in area, but only 950 acres of it were used as breeding territory. In this 950-acre area, located in the lowest parts of the tract, the male woodcocks established their singing grounds. The whole study tract was very dry; it contained only a few sinkholes that held water throughout the summer. The most important tree species were pitch pine, bear oak, scrub chestnut oak, hazelnut, prairie willow, panicled dogwood, and trembling aspen. In the flats where the singing grounds were located, the vegetation was composed of a low growth of scrub oak—about 2 to 4 feet high—interspersed with many grass-covered openings. Hazelnut, willow, and dogwood grew about the singing grounds, and clumps of aspen were scattered throughout the area. On the slopes and ridgetops the vegetation was composed of dense growths of scrub oak, 6 to 10 feet high, intermingled with pitch pine. Because woodcocks have usually been associated with water or at least a damp location, this environment seemed unsuitable for breeding territory; but subsequent observation indicated that they do not absolutely need water or even damp soil. These birds remained in this relatively dry barrens area throughout the breeding season and during at least part of the summer.

There are but few birds that are as rarely seen—except during the hunting season—as the woodcock. During the day they usually remain quietly in their wooded haunts, perhaps feeding occasionally. They become more active as evening approaches, and it is then that their courtship activities are begun. Most of the feeding is done in the evening or early morning hours, but on moonlight nights the birds are active from dusk to dawn. Because of their twilight habits, woodcocks are infrequently observed unless flushed accidentally from their coverts during the day.

In Pennsylvania, from the first of March until the middle of May, male woodcocks were observed on their singing grounds during the evening, night, and early morning. They began their courtship activities shortly after sunset and at dawn. The male woodcock flew silently from the nearby woods and alighted on a small grassy opening (figure 3). Almost immediately after alighting upon the singing ground, the male began to call. The note, given at about 1-second intervals, was a harsh, nasal sound like that of a night-hawk. This note has been phonetically expressed as *peent*. (See Pettingill, 1936.) A very different call was audible when the bird was close. This note was a low cooing sound expressed as *took-oo* and was usually given immediately before each *peent*.

Suddenly, after *peenting* for a short time, the male woodcock flushed from the singing ground and began his peculiar flight song. At first the ascent was gradual, but soon the bird began to climb in a steep spiral over the singing area. During the ascent a twittering sound, increasing in pitch as the bird neared the apex of the flight, was plainly heard. After spiraling to a height of about 250 to 300 feet, the bird suddenly dropped from the air in a zigzag course, uttering a broken, melodious warbling song during the rapid descent. The woodcock then alighted on his singing ground within a few feet of the spot where he started the flight, and at once he began to *peent* vigorously. After *peenting* for a

(Continued on Page 23)

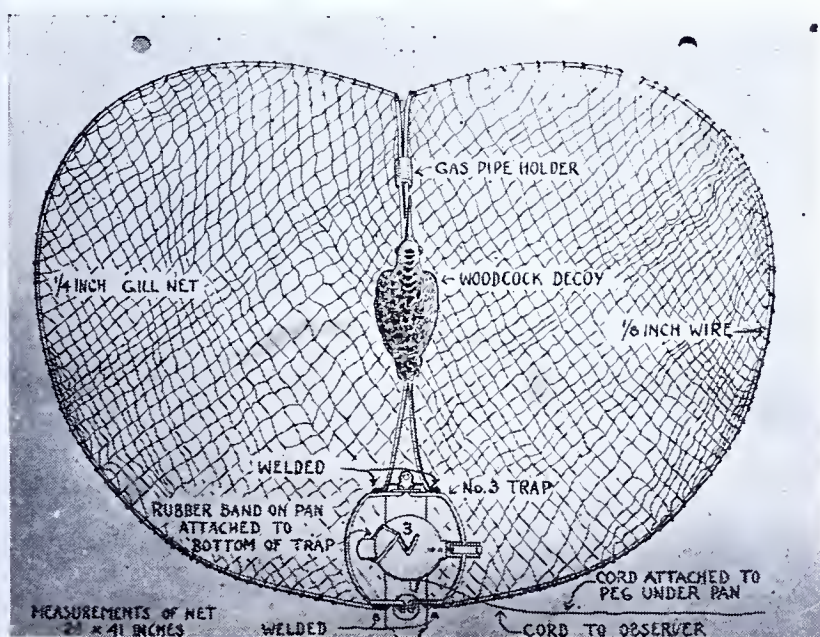


Photo of drawing by Ross T. Mitchell

The Pennsylvania woodcock trap.

The Passenger Pigeon

By Capt. J. G. W. Dillon

BENJAMIN MACHAMER who was born in 1848, and raised in the Shamokin district of Northumberland County, Pennsylvania, has furnished some very interesting facts concerning the "Wild" Pigeon. Both he and his father before him were mighty hunters and big game hunting was a favorite pastime. However, their efforts were not confined to big game exclusively, for they hunted the Pigeon as well, and of the numerous instances related by Mr. Machamer, I will mention the following:

The northern migration of the Pigeon in March 1865, seems to have been rather premature. The birds had gone north in vast numbers to the great beech and oak forests, where they would scour the woods for the nuts and acorns that lay hidden in the leaves of the previous year. But they had gone only a few days when a great snowstorm swept the North and back came the Pigeons in seeming millions. Every available gun and net was brought forward and put to use.

The elder Machamer, with his boy Ben, were soon in evidence with their Stool Pigeons, big net and other paraphernalia. The net and bough house were soon arranged for business, and the Stool Pigeons placed—all was in readiness. There were a few minutes of silence. "Hark, hear their wings", exclaimed the boy. "Look out father, they are coming". And they came, not by hundreds of thousands, but as an avalanche.

In a few seconds the birds had piled upon the net and ropes to such an extent that the elder Machamer was dazed with astonishment. There the trapper sat concealed within the brush house, ropes in hand, but he did not attempt to spring the net—too many birds, too much weight; the trap could not function.

"It seemed that everything had turned into Pigeons—the heavens and the earth alike were turned to slate blue. But a change came. With the roar of a cyclone they were off again to the Southward".

Recovering from this strange experience, the senior Machamer quickly readjusted the net and was ready for another surprise. "Oh, here comes more"! And it was all true. Looking to the North, a few thousand birds were seen coming in extended order. They were the advance guard of a mighty army that would soon follow. On they came. The decoy birds fluttered their wings. The scouts of the army saw them. They turned, circled, and down they came, to be followed in a few seconds by an army of Pigeons that seemed endless in extent.

Quick to realize the situation, the old trapper pulled the rope before the greater mass had settled. With a sluggish response the net fell upon the birds. The trappers rushed to the scene and threw themselves upon the net in an endeavor to hold it down, but in this they only partly succeeded. The catch was too great. "The struggling birds lifted the net in many places and scores made their escape". Quickly the captive birds were slaughtered and carried back into the brush house and the net re-set for another fight, but no more large bodies appeared.

During the day a few detached bunches came and several minor catches were made. However, a good day's work had been realized, for, by actual count, "1125 birds were taken".

But the Machamers were not the only Pigeon Trappers on the scene—William Kaker, a neighbor, was also making the best of

his opportunities and, during the same period, caught all he could accommodate in his corn crib cage. He had taken the birds alive, to be sold for shooting matches, at \$1.00 per dozen.

Other instances as related by Mr. Machamer, run as follows: "On a certain occasion I killed 32 pigeons in two shots with an 18 gauge shotgun. Again, I shot 24 in one day with a small straight cut rifle, using shot. They were feeding on sassafras berries. I saw an enormous flight in April, 1876. In 1879, during April, there was a flight on. I killed 11 at one shot. A neighbor, John E. Rathburn, killed 52 in two shots, using a 10 gauge shotgun. Lewis C. Sober killed more than 50 birds in an hour and a half."

"In the Fall of 1869 I accompanied my father on a hunting trip into the wilds of Potter County. I was not long noting that a great deal of timber was broken down. The limbs were broken from trees and a general mutilation prevailed over a large extent of woods. 'Why, father!' I exclaimed, 'there must have been a terrible storm up here not long ago; just look at the trees'."

"Father smiled and said: 'Why, boy, this was a pigeon roost.' He killed his last Pigeons in September 1889, while squirrel hunting. There were only two birds—a male and female. These were the last he ever saw."

The Passing of the Passenger Pigeon

The passing of the passenger pigeon represents one of the saddest pages in the history of the bird life in this country. More interest is evidenced in its history and its fate than in that of any other North American bird. Its story reads like romance. Once the most abundant species, ever known in any country, ranging over the greater part of this continent from the Gulf of Mexico to Canada in flocks so great that they hid the face of the sun, it has vanished from the face of the earth, leaving us only a few mute specimens in museums and private collections to remind us of its sad end and to serve as a warning of what happens when no thought is given to the preservation of wild life.

The passenger pigeon was in some respects the finest pigeon the world has seen. Its other name is wild pigeon. The scientific name

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Photo of mounted specimen by Gordon Kriebel
Passenger Pigeon

What Price SPORT?

by
N. R. CASILLO

Some interesting
slants on the
deer situation



Left to right—Russell Sage, Harry and John Lang, Pike County nimrods, and Joseph Latorre, of Scranton, with some nice trophies.

I shall never forget the thrill that shivered through me when Bill Searle concluded his story with: "And now you mark me, some member of his family will die within six months."

Bill was an old time outdoorsman whom I admired with all the enthusiasm that could be mustered up by a twelve year old boy. Among other things he was a pioneer in game conservation and protection in my native state and served as a voluntary protector for many years without remuneration. In addition he was a trapper, fisherman and herbalist.

His dire prediction, made as a sequel to the killing of a fine albino buck by a local hunter, came true. Purely coincidental of course, yet, I can even now see old Bill slowly shaking his shaggy head and thoughtfully stroking his Buffalo Bill mustache. "That's what comes of tampering with the mysteries of nature. White deer weren't meant to be killed by men," he cryptically explained.

At about that same time I came into possession of Van Dyke's monumental work, **The Still-Hunter**; a book wherein the author describes the finesse, art and skill entailed in hunting the whitetail. Naturally I was impressed by the writer's declaration that a whitetail buck was the most desirable trophy that any hunter could bag.

However, the related incidents were not necessary to impress me with the conviction that our native deer, regardless of sex, was one of the most sagacious and elusive game animals in all North America. Indeed, the hunters of our locality had considered it so long before I knew Bill Searle. Old timers in New England as well as those of the Adirondacks and other regions had always ascribed unusual powers to any old, scraggly horned stag that persistently eluded them. He became in turn a traditional and legendary figure and finally an apparition. And woe to the wretch who, in a moment of thoughtless-

ness or excitement, brought down an albino deer. Like the albatross in Goldsmith's classic, it would figuratively hang from the culprit's neck until the dastardly deed had been expiated.

In other words, in those days men took their deer hunting seriously. Plans for the hunt were carefully laid over a period of joyful anticipation frequently entailing weeks. If the group concerned was so lucky as to own a permanent camp in the deer country continual zest was added to the planning by improvement work in and about camp during many happy pre-season weekends.

Then, on the eve of the opening or perhaps even a few days before, the group would move into camp. There they would get down to the actual last minute preparations that were always existent in spite of the weeks of preliminary planning. The fellowship, the long yarns, the card games, and probably some methodical drinking, were all vital parts of those halcyon days. Deer hunting was the colorful privilege of the comparative few who possessed the time, stamina and hardihood to participate in it.

It was seldom that the hunters spent less than a week in the woods. More often it was for the duration of the season. **Bagging** a deer was secondary to hunting it. Indeed, the kill was more unimportant than all the other essential incidental to life in the deer country. To use a word that is a bit overworked, there was **glamour** in the hunt. No, not the glamour that the movie magazines write about, but skill, fellowship, sport and a sense of achievement, which when compounded together were the essence of a successful outing.

Yes, I am lamenting those days that are rapidly passing and in most cases have already passed into the limbo of an unforgettable past. I can well imagine the popeyed amazement of the shades of departed hunters sitting at vantage points in the happy

hunting grounds, as they observe the consummate ease with which a present day hunter bags his deer. Is it an accomplishment to go into the big woods for a single day and come out with your trophy, such as it is? What pleasure was derived from the **kill** by the chap who noisily boasts that he got his deer a minute or two after the opening hour? His cannot be the deep satisfaction of one who pits his skill against that of his quarry.

According to one that is in a position to know, a large percentage of the hunters in this state could well be termed "day hunters." In a few hours one can be in the heart of deer country no matter where he lives in the state. In numerous cases many hunters never leave the highways, taking stands near a deer pass within sight of their parked cars. You can see for yourself whether or not this mode of hunting requires the skill and other essentials that a successful deer hunter is supposed to exercise.

Most of those who go into the woods either participate in drives or post themselves as watchers in a drive being conducted by their own or some other party. One never knows the number of hunters that are in the vicinity of a drive until a deer is sighted. Let me cite a case.

A few years ago I was still-hunting in a section of our state where the deer were reputed to be more numerous than the hunters. Accordingly my companion and I put up four animals. They bounded off down a long slope, crossed a narrow valley and then plunged into the heavy growths covering the opposite hillside. Half way up the hill they paused in a little glade. What a picture they made! All four animals had lined up with their heads all pointing the same direction. In a moment I whipped out my glasses and noted that the second deer from the right sported a fair rack.

(Continued on Page 22)



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

PAINTING RUNWAYS OF DEER

Q. It has been brought to my attention that someone has been painting the deer runways in this vicinity. I would appreciate some information as to whether this is within the law.

J.W.B.—Friedensville, Pa.

A. We find nothing in the Game Law to prohibit the painting of deer runways. In fact, the Game Commission itself marks runways for deer in some of the more frequently traveled highways in the State, by placing luminous signs of warning to motorists, and we see no objection to hunters painting or otherwise marking runways in deer territory, regardless of the purpose.

* * *

BUCK AND DOE SHOOTING IN THE SAME SEASON

Q. I would like to know if there ever was a season when antlered deer and doe came in season on the same day. If so, what year?

J.S.—Pond Hill, Pa.

A. The deer season of 1931, which was December 1 to 15, was open to the killing of any deer in the State, either buck or doe, except spike bucks and deer weighing less than 40 pounds with entrails removed. This was a State-wide season and opened on the morning of December 1, 1931.

* * *

HUNTING ON ONE'S OWN PROPERTY WITHOUT LICENSE

Q. I own a farm in Bethel Township, Lebanon County, and rent a part of it, but do not include the orchard in the lease. I take care of the orchard myself, the income therefrom becoming a part of my living. I also do not include in the lease several acres of young forest trees. I maintain a voting residence in Annville Township. May I hunt on this land without a license inasmuch as a part of my living comes from this farm through my own personal labor?

R.L.S.—Annville, Pa.

A. Apparently you cannot, legally. We assume from your mailing address as given, that you reside in the Town of Annville. If that is correct, I am sorry to say that you do not have the right to hunt on your property in Bethel Township without a license, even though you participate in its cultivation for a portion of your livelihood. To hunt without a license, one is required to actually reside upon and cultivate a portion of land. In your case, I am fearful that you cannot meet these requirements and therefore are not entitled to the privilege of hunting without a license on your own farm.

TRANSPORTING PORTION OF DEER

Q. A friend and I are hunting deer together. We figure one deer is enough for both of us, as we can divide it. I live in Pittsburgh and he lives in Warren. He shoots his deer and we divide it. I want to transport my half back to Pittsburgh. If I put my game tag on my half, would I be within the law?

W.H.G.—Pittsburgh, Pa.

A. No, not with your tag attached. But if the portion of the deer you transport has attached thereto a card or marker, bearing in plain English the name and address of the hunter who killed the deer, his license number, and, if the deer is packed or covered, a notation as to the character of the contents of the package on the outside so that such contents may be determined by an outside inspection, you could legally transport it to your home. Please note that the name and address of the person who actually killed the deer should be shown on the tag or container of that part of the deer you possess, and not your own name. **You must not use your tag on any deer or part thereof killed by another.**

* * *

BOY UNDER EIGHTEEN YEARS CARRYING RIFLE FOR TRAPPING

Q. Please answer the following under "Sportsmen's Queries". Is a boy under eighteen years of age who traps permitted to carry a .22 calibre rifle in the woods during hunting season without a hunting license?

W.H.—Greensburg, R.D. No. 2, Pa.

A. No. We do not consider it lawful for a person under eighteen years of age to carry a .22 rifle on a trap line without a license unless the trapping is done on his own home grounds or those adjoining. While it is true that the Game Law gives trappers under the age of eighteen the right to trap fur-bearing animals and vermin without a license, we do not construe this as giving him the right to carry a rifle in connection with such trapping.

* * *

KEEPING GAME LONGER THAN THIRTY DAYS

Q. Please send me a permit to keep deer meat after thirty days.

B.G.—R.D. No. 2, Factoryville, Pa.

A. The Game Law was amended in 1939 to permit the possession of legally killed game for sixty (60) days after the close of the season, but permits to retain same longer than sixty (60) days are not available under present regulations. It will therefore be necessary for you to dispose of the edible portions of your game within sixty (60) days after the close of the season.

RIGHT OF HOUND OWNER TO CLAIM RABBIT

Q. On November 1 our rabbit hounds were running a rabbit, but before we could get a shot at it, another hunter not in our party shot the rabbit. In your opinion, to whom does this rabbit properly belong?

J.P.—Philadelphia, Pa.

A. The rabbit legally belongs to the man who shot and killed it. There is nothing in the Game Law to give a hunter any right to a rabbit or other game chased by his dog, so long as that hunter does not actually inflict a mortal wound which stops the flight of the game. The hunter who killed the rabbit in the case you mention was legally entitled to it, regardless of the fact that your dog had been chasing the animal. While the shooting of game before another hunter's dog is not good sportsmanship, it is, nevertheless, a fact that one cannot claim game merely because his dog happens to be chasing it.

* * *

HUNTING DEER WITH REVOLVER; .22 RIFLE FOR SMALL GAME

Q. (1) Is it lawful to hunt deer in Pennsylvania with a revolver?
(2) Is it lawful to hunt small game with a .22 rimfire rifle in Pennsylvania?

B.R.G.C.—Swoyerville, Pa.

A. (1) It is legal to use a revolver for hunting deer in this State if you use an all lead, lead alloy, soft-nosed, or expanding bullet. Permission to transport a revolver for hunting purposes must be obtained from your County Treasurer, the fee for which is fifteen cents.
(2) You may hunt small game with a .22 rimfire rifle if it is not an automatic. Federal regulations prohibit the use of any rifle for hunting wild waterfowl, but other small game strictly native to Pennsylvania, such as rabbits, squirrels, pheasants and grouse, may be hunted with a small bore rifle.

* * *

KEEPING SMALL GAME FOR PETS

Q. Please give information and procedure for obtaining permits for keeping squirrels, pheasants and other small game for pets.

R.D.M.—Connellsville, Pa.

A. It is not permissible to keep live game, such as squirrels, pheasants and rabbits, in captivity as pets when this game has been taken in a wild state in Pennsylvania. No permit can be issued for that purpose. Animals that are wild by nature do not fare well in captivity and it is best that they be left to enjoy life in their natural habitat.

THE STRUGGLE FOR EXISTENCE

By JACK ANDERSON



Two pheasants in ruffled combat.

IT was a tranquil summer's day. All about me was peaceful, as if the world was asleep. It was autumn, a dry, dusty autumn, cloudless and with only a faint cool hint of breeze stirring. I strolled alone with thought on a narrow lane in the forest, alert to the environment, keen to catch a glimpse of some form of wildlife. And suddenly, so suddenly that I started, I was aware that, as usual, Nature lied, leading me to believe she slept. Nature never sleeps. She masks her ceaseless battles with a cloak of hypocritical silence, like two small boys ceasing to fight when conscious that the eyes of the law are upon them. Leaves rustled; a toad in great haste and bloated with fear, hopped frantically across my path. Behind, leaves still rustled; and a split second later a common garter snake wormed hurriedly in the wake of the toad, his forked tongue working with hungry abandon. I watched, but the race escaped my eyes. I listened, but the race eluded my ears. Again Nature chose to lie, telling me she slept. I continued on.

One morning on the trapline I was surprised to discover a dead skunk, partly eaten, in one of my sets. The pelt was ruined. Indignant, I buried a trap nearby, leaving the skunk in the trap. Next morning I captured my thief—another skunk.

A songbird innocently pecking insects from a tree; in some early autumn corn-field two male ringnecks circling and clawing in ruffled combat; a noxious weed-plant of the wild choking to death a beautiful slender flower; a fat and hardy oak tree starving a weaker brother by denying him light; a voracious black bass swirling some quiet lake while snapping minnows in his greedy jaws. All the mad, ceaseless, inevitable struggle for existence: How can Nature sleep, or pretend to sleep, with this never-ending, never-pausing war? A hard and cruel command of a hard and cruel Nature—fight to live.

The struggle for existence, as Darwin discloses it in his origin of species, is broad scope, being not only the fight of plants and animals to survive against their own or other species, but also the fight against Man, and against the elements. A scanty tree on a rock-strewn cliff which fights for nourishment is engaged in the struggle for existence; a deer braving the ravages of starvation is likewise engaged.

Balance of Nature

Nature has a balance of things, a balance so sensitive, so intricate, that the slightest alteration of the life cycle of any species will result in serious over-production or shortage. Now with the turning of Man to Nature for sport, an unforeseen difficulty develops. The balance of Nature is tampered with. Hence, Game Laws, Game Laws, we might say, are man's ingenuity to cooperate with Nature on maintaining her balance of things. Take the amount of game destroyed, a census of game remaining, estimate the vermin,

climatic and pestilence toll, and regulate game laws accordingly. That's about the basis for devising game laws. Not as simple as releasing an indeterminate amount of game into a territory and trusting to luck that all will survive. Nature has no regard for Lady Luck.

Why is game scarce at times and then again plentiful? There is ever a reason; more likely, reasons. Perhaps the area has been over-hunted, perhaps predators abound, or are perhaps rare; perhaps the climatic factor has been responsible.

It is interesting to note the ingenious ways by which Nature controls the abundance of any one species. The most prolific breeders almost invariably face the greatest number of enemies; if not, some factor, such as vulnerability to cold, draught, heat, or winds, tends to reduce their numbers. A bird that gives no protection to its eggs produces a greater amount of eggs than the bird that affords protection (Darwin). A helpless animal, such as the opossum, is very prolific. But this fact is readily understood as one of Nature's balance commandments. Any one species must have some enemy or some inherent weakness for organic beings develop so rapidly that the earth would soon be covered by the progeny of a single pair. The naturalist Linnaeus figured that if an annual plant produced only two seeds, and their seedlings the following year produced two, and thus on, in twenty years there would be one million plants.

Effects of Climate

Climate effects wildlife in two ways. First, severe weather, ice, or snow will cause a food shortage, killing off the less hardy animals; secondly, this food shortage will cause fighting among the individuals, and again the most fit will survive. While this effect of climate may prove disastrous in the eyes of the sportsman (who too often looks only to abundance of game), nevertheless it is very satisfactory in the eyes of Nature, for the hardy survivors of the struggle will be the most sturdy beings and hence the best breeding stock.

Alterations of climate produce great changes, both in vegetation and in animal life. In this latter let me give an opinion on one species of animal which is rapidly on the increase due to the decrease in snowfall and general severity of winters in our state—namely the opossum. This marsupial was at one time a rare sight in Pennsylvania. Now he is common . . . and increasing still. Why? There is a reason. Is that reason alteration of climatic conditions?

The Game and Wildlife Problems

To fully understand the game and wildlife problems the struggle for existence must be borne ever in mind. By this struggle Nature has schemed to maintain her balance; a balance which she has rearranged and altered constantly for millions of years. A sudden shifting of this balance would be disastrous. For this reason no species, not even the most blood-thirsty vermin, should be exterminated. Even the wildcat does good, driving deer from their pitiful and destructive winter circle. Like people, no child of the wild is totally bad. Good dwells in the worst.

(Continued on Page 24)



A toad bloated with fear, hopped frantically across my path.

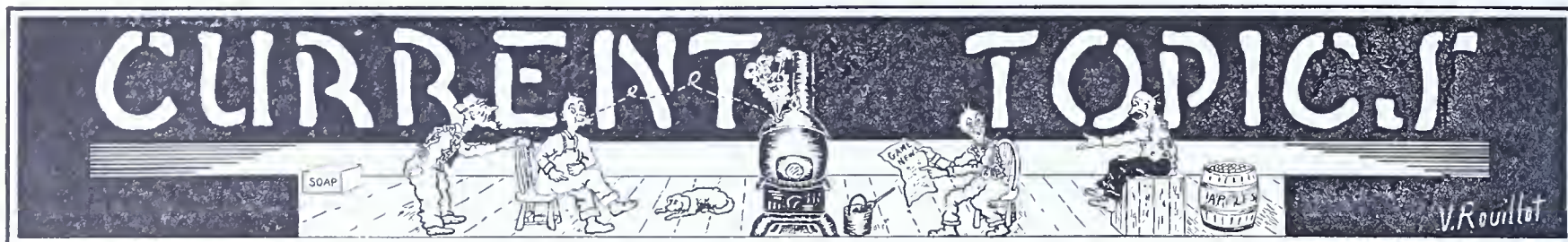


Photo courtesy Harrisburg Evening News.

Colonel Nicholas Biddle of Jenkintown, President of the Pennsylvania Game Commission for the past five years, retired as head of the State game body at its annual meeting held January 11 but continued as a member of the Commission. Col. Biddle is shown at left heartily congratulating his successor, Commissioner Ross L. Leffler of McKeesport, while Commissioner John H. Price of Scranton, newly elected Vice-President looks on. Mr. Leffler was elevated from the vice-presidency which he held since 1937. At that time he succeeded Hon. J. Q. Creveling of Wilkes-Barre, when that venerable Pennsylvania conservationist retired from the Commission.

Commissioner John H. Price, well-known Scranton sportsman who succeeded Mr. Creveling on the Commission, was elected Vice-President succeeding Mr. Leffler. Being an able lawyer, Mr. Price has been the Commission's legal guide.

During Colonel Biddle's term as President, the Commission inaugurated various new policies and programs to cope with present-day problems. Among them are the successful new Cooperative Farm-Game Program, the vast food and cover improvement program on State Game Lands, the expansion of the State's game farms, the purchase of more game for stocking purposes, a training school program for the development of men to fill vacancies in the field staff, more effective methods for dealing with the hunting accident problem, and greatly improved operating methods. The latter involved a complete reorganization of the Commission's staff a year ago.

Commissioner Leffler, being the oldest member in point of service and having previously served as President for four years, is well acquainted with the many tasks which confront him and his associates. He is widely known among the sportsmen of the Keystone State as well as the leaders of the Boy Scout movement.

When Mr. Leffler went on the Commission a dozen or so years ago he launched the present system of training field men which is a distinctly Pennsylvania feature, and served as chairman of the committee on reorganization of the Commission's activities, appointed in 1937.

In private life he holds a very responsible position with a large industrial concern. He has been active in many important civic movements in Allegheny County, and like his old colleague in wildlife conservation known the country over, John M. Phillips, Mr. Leffler has long been a leader in the Boy Scout movement.

Members of the Commission serve without compensation.

A TRIBUTE

The following testimonial in honor of Col. Nicholas Biddle, retiring President, was unanimously approved by the Commission and made a part of its records at its meeting on January 11, 1940.

WHEREAS, Lieut.-Col. Nicholas Biddle, of Philadelphia, Pennsylvania, was appointed a Member of the Pennsylvania Game Commission on February 11, 1935; and

WHEREAS, He was unanimously chosen President of the Commission on March 27, 1935, serving in that capacity with untiring effort and performing the duties with fidelity and honor, until he retired from said office on January 11, 1940;

BE IT THEREFORE RESOLVED, That we, the Members of the Pennsylvania Game Commission, who have been fortunate enough to serve with him during his tenure of office, extend to him on behalf of the Commission and the sportsmen of this Commonwealth our most sincere appreciation for his intelligent understanding and guidance on the major problems with which we were confronted during his term as President.

We hereby direct that this resolution be spread upon the official minutes of the Pennsylvania Game Commission, and a copy thereof be inserted in the next issue of the Pennsylvania Game News.

ROSS L. LEFFLER, President
JOHN H. PRICE, Vice-President
S. C. CASTNER
A. W. LEE, JR.
FRANK B. FOSTER
R. LAMBERTON
WM. G. FLUKE

ATTEST:

SETH GORDON, Executive Director

FEEDING CARAVAN

On February 25 sportsmen of Cameron County will again be hosts to western Pennsylvania nimrods in a gigantic deer feeding undertaking in Cameron, Elk and Jefferson Counties. Practically all the western Pennsylvania sportsmen who will participate in the event are Allegheny Countians, and they will make the trip in specially chartered trains. Over 1000 are expected to take part in the program, which will be directed by W. G. Munsell, of Emporium, Chairman of the Cameron County Rod and Gun Club. Headquarters will be at St. Marys, where chow will be furnished army style, and where the men will be divided into groups and sent into different sections of the forest under capable leadership. The program will consist of cutting and pruning operations to provide deer food.

CURRENT TOPICS

REMOVE SKUNK PROTECTION

The lowly and rarely appreciated skunk was temporarily removed from the list of protected fur-bearing animals in Pennsylvania as of January 11, 1940, by formal action of the Commission. After September 30, 1941, this animal will automatically be restored to the status of a protected fur-bearer. In the meantime its food habits and its abundance will be studied carefully by capable research workers.

The effect of the Commission's action is to make it lawful to kill skunks at any time and in any manner, including the digging or smoking out of their dens, except through the use of poisons, explosives, and chemicals, until September 30, 1941. The law governing the use of traps and deadfalls remains unchanged.

The increase in the skunk population in recent years in Pennsylvania and neighboring states is due principally to economic conditions which have resulted in low fur prices, and also to the further fact that large numbers of our citizens who formerly trapped extensively have been employed on various kinds of relief work and not running trap lines.

When the Commission fixed trapping seasons last summer it was believed that war conditions in Europe might curtail the annual importation of something like \$45,000,000 worth of furs, and that raw fur prices in the United States would increase sufficiently to encourage much more intensive trapping for skunks. While prices are somewhat higher than last year, they apparently have not increased sufficiently to bring about a decided reduction in the numbers of these animals.

Farm Show Exhibit Lauded

The Commission's exhibit at the State Farm Show this year was by far one of the most interesting and educational ever planned, and to Game Protector George Koehler, Lycoming County, goes the chief credit for its design and erection. The miniature beaver pond, with its two live beavers, running water and dam, attracted the most attention. People stood around the pond for hours watching the little animals cut their own food, swim about in the water, and comb themselves on the bank of the stream. Many large colored transparent photographs showing the life history of the beaver added to this striking display.

Another part of the exhibit which commanded much attention was a large series of deer horns and skulls, and several bear skulls, the latter cut in cross sections to show how to differentiate between the adults and cubs by the growing tusks. Colored transparencies of the life histories of the deer and bear also embellished this fine display.

Other parts of the exhibit included wild turkeys in a propagating area; a Special Wildlife Refuge; two extremes of farm management—one showing upgrown fencerows harboring live quail. The rows were planted to show berry bushes, briars, vines, etc. Some of them held bird nests. The other was just a bare fencerow devoid of vegetation or

In Memorium

Conservation lost another staunch supporter through the untimely death, on December 20, of F. A. Silcox, Chief of the Forest Service, of the U. S. Department of Agriculture. A man of tremendous capabilities, Mr. Silcox rose to the ranks from the time he entered service in 1905 as a Forest Assistant until he became Regional Forester of the Northern Rocky Mountains in 1910.

Following his service in the World War as major of Engineers he entered the industrial field where he gained nationwide recognition in settling labor difficulties, coordinating federal employment offices with the several states, directing industrial relations in the printing industry, etc. He also acted as arbitrator in the famous New York elevator strike.

Mr. Silcox served as Chief of the U. S. Forest Service since 1933, and in the words of Henry A. Wallace, Secretary of the U. S. Department of Agriculture "The death of Mr. Silcox is a blow to the whole American movement for conservation of human and natural resources. His work is commemorated in a government organization of highest efficiency and esprit de corps and in the grateful remembrance of great service to many of the worthy civic enterprises that American citizens are carrying on today."

Mr. Silcox was born in Columbus, Ga., and was a graduate of the College of Charleston, S. C., and later of the School of Forestry of Yale University, where he received a degree as Master of Forestry.

wildlife. A partly completed rabbit shelter or 'hutch' also was displayed and created a lot of interest.

The Commission will participate in the large Sportsmen's and Motor Boat Show at the Commercial Museum, Philadelphia, February 26 to March 2, using the same exhibit that was on display at the State Farm Show.

TO DIRECT RADIO

Harris G. Breth, well-known western Pennsylvania outdoors writer of the Pittsburgh Sun-Telegraph and the Oil City Blizzard will direct a series of hunting and fishing programs over KDKA every Friday evening at 7:30. The program began Feb. 2 and is sponsored by Duquesne.



Just another typical example of some of the rolling "camps" that can be seen in Pennsylvania deer woods.

TO STUDY FOREST WILDLIFE

The U. S. Biological Survey has just approved a project under the Pittman-Robertson program calling for a comprehensive study of forest wildlife problems. In a broad sense the project calls for a series of cutting operations for the purpose of determining methods of correlating game management and timber production, and to assist in managing advantageously the State Game Lands in the interests of both wildlife and timber.

It will also include a study of forest fires to determine their effects on the game food supply, soil fertility, plant succession, plant growth, and general ecological relationships. Possible methods of controlled burning will be studied to determine whether this might be feasible or desirable in the second growth forests of Pennsylvania. Another part of the project will include a comparative study to determine the costs of cutting to improve food conditions as compared to controlled burning.

Herbert A. Kaufman, a graduate of State College, has been appointed leader of the project under the direct supervision of James N. Morton, Chief of the Division of Land Management, and Richard Gerstell, Chief of the Division of Research of the Game Commission.

For the past several years quite a few sportsmen have expressed a desire to see some burning experiments conducted, and the progress of this special study will no doubt be followed with considerable interest.

Mr. John Youngman, President of the State Federation of Sportsmen's Clubs, is one of those who has strongly advocated such studies. When he learned this project had been approved he said:

"Above all we should not simply burn the woods. It may well be that fire has no place in game management, but before we can answer this question experiments must be conducted by intelligent and informed scientists to determine when, where, how and if burnings of woodlands are desirable. As I understand it, all that the supporters of controlled burning are advocating at the present time is that these experiments be conducted under the direction of the Pennsylvania Game Commission, with the Department of Forests and Waters cooperating. It is natural for anyone to shy away from the use of fire. The propaganda against fire has been almost universal, but the time has come when the truth should be determined."

A Hunter's Guide and Almanac for 1939-40 has just been published by the Haywood Publishing Company, Lafayette, Indiana. It is a complete dictionary for hunters, including game and fish laws, license fees and bag limits in all of the states of the Union, in Canadian Provinces and bordering Mexican states. Price is \$2.00.

"I have noticed that pheasants, rabbits and squirrels are feeding in the game food plots on State Game Lands 145 since the snow covered the ground."—Game Protector Raymond Holtzapfel, Lebanon County.

CURRENT TOPICS

Some Federation Recommendations Reviewed

At its 1939 Annual Conference the Federation of Sportsmen's Clubs made various recommendations relating to game law changes and to certain activities of the Commission, most of which were subsequently carried out. There were a few, however, upon which the recommended action has not been taken for the reasons stated in a bulletin recently forwarded to all sportsmen's organizations so that they will have a chance to discuss them before the next Federation meeting on February 12, from which we quote as follows:

"Resolution No. 7—Resolved, to ask for legislation to take the issuing of hunting and fishing licenses out of the Department of Revenue and let the respective Departments appoint their own issuing agents, upon the recommendation of local sportsmen's organizations. This will be much more satisfactory to the sportsmen and eliminate many hardships in the securing of licenses by citizens of this Commonwealth."

This recommendation was brought to the attention of the Legislature but no change was made in the method of issuing hunting and fishing licenses. In a later discussion with the Directors of the Federation, sentiment seemed to be rather strongly in favor of again imposing the responsibility for handling the issuance of hunting and fishing licenses upon the several County Treasurers, with a requirement that they appoint sub-agents as needed, also giving the Department of Revenue the right to replace any County Treasurer who fails to comply with the requirements of the law or permits his sub-agents to do so, or who desires to be relieved of the responsibility, with another capable agent to handle the licenses in that county. However, no definite recommendation has yet been agreed upon.

"Resolution No. 16—Recommending to the Pennsylvania Game Commission the removal of the protection on the skunk."

At the meeting of the Commission held on January 11, 1940, by a resolution adopted, it removed the skunk from the list of fur-bearing animals, effective immediately, until September 30, 1941, during which period the food habits of the skunk and its abundance will be given further study. (See special item under Current Topics).

"Resolution No. 41—Resolved, that the bounty on weasel shall be raised to \$1.00."

This recommendation was taken under consideration promptly by the Game Commission, and was later discussed with the Directors of the Federation. To date the Commission has not found it desirable to change the rate in the weasel bounty. As a matter of information the following is submitted:

When the Commission reduced the weasel bounty in 1937 from \$1.00 to 50c, based upon our records of the previous 22 years, it was the Commission's opinion that the rate of bounty has had little influence upon the number of weasels actually killed, except probably in the case of a limited number of professional trappers, and that one of the greatest values of the bounty system up to that time had been educational. It appears that the majority of the criticisms we are receiving now from bounty claimants are coming from professional trappers and not those who would kill weasels, bounty or no bounty, as protection to domestic poultry or to game.

In reviewing the records of bounty payments under the various rates previously in effect (\$1.00 from 1915 to 1919; \$2.00 from 1919 to 1921; \$1.50 from 1921 to 1923; 1.00 from 1923 to 1937), the Commission also came to the conclusion that the number of weasels trapped and submitted for bounty depended largely upon general economic conditions, raw fur prices, and weather conditions. For example, during the period when \$2.00 was being paid,

the maximum number of weasels presented for bounty was 53,382 for the year ending May 31, 1921, yet the following year when the rate was reduced to \$1.50, and general working conditions were less favorable and trapping conditions better, 74,142 weasels were presented. The next year the number dropped to 50,548.

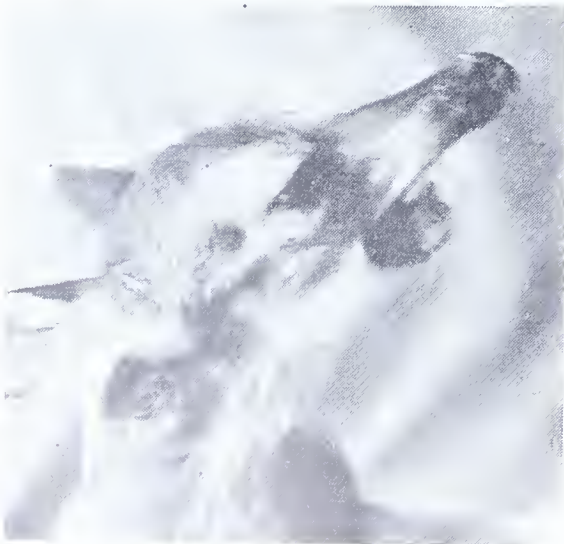
Following the establishment of the \$1.00 rate in 1923, the lowest number of weasels from then until 1937 (when the rate was reduced to 50c) was 22,583 for the year ending May 31, 1925, while the highest was 88,578 for the year ending May 31, 1934.

The Commission having decided that the rate of the bounty on the weasel did not materially effect the number of weasels actually killed, and that any monies saved through a reduction in bounties could better be utilized to expand game farm operations and to increase the amount expended for game purchases, the bounty rate was then reduced in 1937.

The first year after that reduction only 29,200 weasels were submitted, or more than the low year ending in May 1925. For the current year, indications are that the total number of weasels submitted will approach the 50,000 mark, and the question still arises: Will an increase in the bounty rate actually encourage the killing of enough more weasels to justify increasing it as recommended?

So that sportsmen may be conversant with the manner in which the Commission has increased its expenditures for game farm operations and game purchases, the following figures are submitted:

Year	Game Farms	Game Purchases	Total
1935-36	\$105,034.55	\$ 46,635.48	\$151,670.03
1936-37	139,340.47	93,630.92	235,971.39
1937-38	134,842.85	82,873.62	217,716.47
1938-39	164,357.89	136,760.15	301,118.04
Budget			
1939-40	\$184,410.00	\$134,900.00	\$319,310.00



Freak deer born at the Harrisburg Zoo. Note the short lower jaw.



Bottom view of same deer.



Young turkey vulture.

CURRENT TOPICS

From the foregoing it will be noted that the Commission, since the reduction in the rate of the weasel bounty, has utilized all of the savings effected to increase the amount available for game stocking.

The above information is submitted not as an argument either for or against the resolution, but simply as a matter of information to those interested.

NOTES FROM THE FIELD

"Prior to the release cutting and the building of rabbit retreats at Tracts Nos. 99 and 100 very few rabbits inhabited this area. The late snows show that several rabbits were using that area at this time. Retreats were built during February and March, 1939."—Game Protector Burt Oudette, Crawford County.

"During the past week quite large numbers of deer have gathered in the section where we have done the strip cutting for game food. There are also signs of different species of small game. All the different species of small game are using the shelters, the deer are also bedding down in the large shelters and along the new cuttings. While the weather conditions have not been bad in this section all game seems to be going strong for the new cutting, also the shelters, while the deer have worked some on the new sprout growth. The new cuttings have furnished them a sufficient supply of food and saved the young sprout growth for a later period."—Game Protector E. W. Turley, Elk County.



The above deer found wedged between two trees by hunting party of Harry Astheimer, Royersford, Pa. The ground showed signs of much struggling and there was a large hole in the leaves in back of the animal where it had kicked them in an effort to force its way out.



Editor's Note: Above are a few of the licenses seized during the past hunting season and following is a list of the violations which prompted their seizure. The Game Commission is determined to aggressively prosecute violations of this nature in an effort to crack down on those who flaunt the game laws, particularly the out-of-state and out-of-season cheaters.

License No.	Offense
18658	Possessing doe deer in closed season.
126B2	Hunting with firearms when intoxicated.
41532	Hunting without a non-resident license.
7P268	Possessing venison and two rabbits in closed season.
P2747	Possession of three raccoons in closed season.
18D38	Possessing grouse in closed season and having three untagged box traps set.
330A6	Possessing deer taken in closed season.
95970	Possessing parts of deer taken in closed season.
34F17	Refusing to show license on demand by Deputy Game Protector; entering Auxiliary State Game Refuge with firearms in open hunting season.
26108	Hunting without non-resident license.
96226	Possessing deer taken in closed season.
M4400	Hunting without non-resident license.
B7620	Killing grouse in closed season; hunting without non-resident license.
9U339	Possessing one rabbit in closed season.
96304	Taking five muskrats in closed season.
55368	Making false statement to secure resident hunting license.

During November Game Protectors brought 1526 prosecutions and collected \$8,390.00 in penalties.

The little baby that is causing us plenty of trouble down here in Greene County is the skunk. He is, I believe, the worst enemy game has in this part of the State. Greene County has long been known as a sportsmen's paradise for quail and rabbits, but skunks have become so numerous they are robbing quail nests before the eggs hatch, and destroying the rabbits in the nest. The towns are so infested with this pest that it is unsafe to walk in the dark. Farmers are bitterly complaining about them ruining their corn, and I know they have totally destroyed several patches of sweet corn.

If any other section of the State has too few of these pests, I am quite sure we can supply them from Greene County and still have one too many left.—Thos. P. Gwynn.

"One Sunday forenoon recently, the members of the household of Leslie B. Guss who resides in a built-up section of Mifflin, Pa., were astonished to hear a large window pane in the living room crash. Upon investigating they discovered that a ruffed grouse had flown against the pane and broken it, landing on the floor of the living room. Mifflin is near a ridge, but even so the grouse had flown rather far from its native haunts. It soon died from the effect of the impact."—Game Protector Herman W. Fisher, Juniata County.

The Lawrence County Sportsmen's Association has picked March 28th, the last Thursday of the month, as the date for its annual banquet. Hon. Ross L. Loeffler, President of the Game Commission, will be the guest speaker.

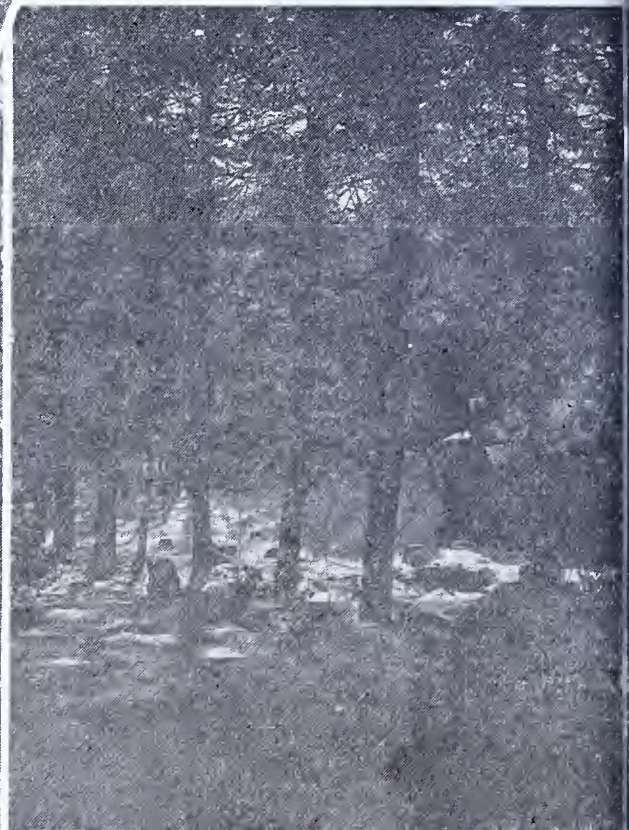
WINTER *in* *Pennsylvania*

1-2-3-5—Scenes along tributaries of
Muncy Creek, Lycoming County.

4-6—Tributaries of Loyalsock Creek,
Lycoming County.

7-9—Scenes on Rickett's Estate,
Sullivan County.

8—Sunlight and shadow on a wes-
tern Pennsylvania stream.



WINTER *in* *Pennsylvania*

10-12-13-15-16-17-18 — Scenes along
Muncy Creek and tributaries,
Lycoming County.

11 — Rickett's Estate, Sullivan
County.

14 — Falls near Whirl's End, Sul-
livan County.



CURRENT TOPICS

TRAPPER'S PAGE » » » By Douglas Wade

(Editor's Note: At noon, on December 16, some of you may have listened to the radio broadcast from Station WCAU, Philadelphia, and heard Mr. Scheffner of the Farm Weekly, and Dr. Logan Bennett, Leader of the Pennsylvania Cooperative Wildlife Research Unit of The Pennsylvania State College, the United States Biological Survey, and the Pennsylvania Game Commission, discuss the topic "Furs from Wild Animals Taken on Pennsylvania Farms". This interview summarized in such fine fashion some of the findings made by the Game Commission during the past year, that we are going to "rebroadcast" them in the form of a question-answer article. So with thanks to Mr. Scheffner and Dr. Bennett we now go on the *Game News* "wave-length".)

FURS FROM WILD ANIMALS TAKEN ON PENNSYLVANIA FARMS

Question—Just how important is the harvest of furs in the Keystone State?

Answer—Since 1926 the value of raw furs taken annually in Pennsylvania has averaged \$1,200,649.75.

Question—Which animals lead in the value of their furs?

Answer—Muskrats rank first with an annual average of \$425,000.00 followed by skunks at \$325,000, and raccoons worth \$150,000.

Question—What about minks, foxes, and beavers? Where do they come into the picture?

Answer—The annual value of mink furs taken in Pennsylvania is \$100,000; Opossum, \$75,000; red fox, \$50,000; grey fox, \$30,000; and about \$11,000 worth of beaver, wildcat, and other furs.

Question—Are very many engaged in trapping in Pennsylvania?

Answer—In round numbers, about one hundred thousand trappers harvest the Commonwealth's fur crop.

Question—Are there many fur buyers in Pennsylvania?

Answer—Approximately 425.

Question—Just what is being done by the Game Commission and The Cooperative Wildlife Research Unit to help the fur industry?

Answer—They are studying many of the fur animals in their natural environment in order to work out management practices that will perpetuate and increase this valuable resource. The Commission is making a detailed study of the economics of the fur industry and already have uncovered many weaknesses that if corrected will make the harvesting of the fur resources more valuable to those so engaged. The Game Commission is also plotting the range and abundance of fur animals in the State. Much of the information gathered will be very useful to the Commission in strength-

ening its fur-animal management program with the land owners, trappers, and fur buyers.

Question—Trapping was once a way for the young fellows to make a little money of their own. Is that still true?

Answer—Yes, in a survey conducted in Snyder County it was found that the average age of the trappers was 16.3 years, and more than half of them were under 18.

Question—Did the survey in Snyder County show where the trapping was done?

Answer—Yes it did. Forty-seven percent of the trappers set traps on their own or adjacent lands. Ninety-five percent of the furs were taken from farm lands and five percent from State forest lands. The average size of the trapping area was 80 acres.



A stone cubby set for the taking of fur-bearing animals.

Question—How many furs were taken in Snyder County?

Answer—If we consider only the land trapped on, it was found that during the 1937-38 trapping season, exclusive of muskrats, there was one fur bearer taken for every 40 acres. The next year the catch had dropped to one for every 48 acres. In 1937-38 there were 12 muskrats taken for every mile of stream, and the following year there were only 9 for every mile.

Question—Did the survey show how many were setting traps?

Answer—Yes. There was one trapper to every five families. It is interesting that the urban trapper caught more fur animals on the average than the rural trapper.

Question—Where did trappers sell their furs and what did they get?

Answer—Most of the furs were sold to local buyers. Only four percent were shipped out of the State. The average net value to the trapper for furs caught in 1937-38 was \$5.26; and the following winter, \$4.17. In 1938 the fur crop in Snyder County exceeded the value of each of the following crops: tobacco, barley, pears, sheep and wool, and honey. It equalled the buckwheat crop.

Question—On the basis of the Snyder County survey, how can the fur crop be better managed, and how can increase of the more desirable fur animals be brought about?

Answer—We have that in mind. Fifteen to twenty percent of the pelts would have brought better prices had the trapper been more careful in preparing the pelt. Some trappers sold unskinned animals; and often by time contact was made with a buyer, the pelt had deteriorated. A few persons trapped before the season opened and, as a result, caught unprime furs. Such practice injures the fur trade, is unethical on the trap line, and is unlawful. The Commission is now studying methods by which fur-bearers may be increased, and the example offered by the spectacular increase of beavers in the past two decades shows the effectiveness of its methods.

Question—What about land use as an aid in improving fur production?

Answer—Proper land use seems to be one of the key factors for the proper management of our fur-bearers. Polluted streams cannot furnish food, water, and cover for very many muskrats, minks, otters, and beavers, as well as fish. Land denuded of good soil and vegetation does not supply the essential food and cover requirements of raccoons, opossums, foxes, and other forms of wildlife. These general facts all point to one ideal—THE PROPER USE OF LAND AND WATER. What is good for our farms, forests, and waters, is also good for our valuable fur-bearers.

In order to meet the great demand for lectures and motion pictures, each of the seven Division Game Supervisors has been equipped with a motion picture projector, screen, and a splendid library of colored films. Now that this supplementary service is available all organizations are requested to make applications for future educational programs direct to the Supervisor in their district. Names and addresses of Supervisors and the counties under their jurisdiction appear on the inside of the cover page. This additional service has been established for your benefit. Use it to the fullest extent, but do not abuse it.

CORRECTION

The note which appeared in the November issue about a buck deer that killed another buck by severing its jugular vein and windpipe should have been credited to Game Protector Ernest E. Hunsinger, Potter County, instead of Game Protector Cecil Hancock, of Port Allegheny.

Michigan appraises its annual game crop from the meat standpoint alone at almost \$3,000,000.



A picture story showing management on State Game Lands. 1. Clump of virburnum after being released from suppression of other less valuable growth. 2, 3, 5 and 7. Winter feeding shelters. 4. Rabbit "hutch" or shelter. 6. C. C. C. workers building dam site. 8. Road work on State Game Lands by C. C. C. enrollees.



The Schuylkill Haven Fish & Game Protective Association believes the importance of club operated refuges of the proper type has not been stressed strongly enough. Its own refuge, which has proven successful, consists of approximately sixty-five acres of splendid small game territory. It is located on an old abandoned farm close to the borough. This farm has been idle for a good many years, and much of it has grown completely wild. It consists of about two-thirds tangled fields and brush, with old apple orchards, wild plum, sumac, and some tall timber. The remainder is an almost impenetrable alder swamp and lowlands. Rabbits, ringneck pheasants, quail, muskrats, and numerous other small birds and animals nest and breed in surprisingly large numbers on the area since they are not molested. The Schuylkill club acquired this ideal sanctuary through the fine generosity and well known sportsmanship of one of its club members and officers, Mr. Charles Manbeck. A total of 568 rabbits were trapped on the refuge during the past three years and the club expects to trap 300 more this winter. The association hopes other clubs will acquire refuges but points out that care should be taken in their selection.

Last year the Millvale Sportsmen's Club raised to maturity 160 ringneck pheasants. From 100 day old chicks received from the Game Commission they raised and released 34 cocks and 48 hens; from 100 six-week old pheasants they raised and released 33 cocks and 45 hens. They have two rearing pens capable of holding 200 pheasants that were built to Commission specifications.

The Commission is always interested in hearing about good motion picture possibilities in order to add to its ever-growing library of wildlife films. Your cooperation in this respect will be greatly appreciated.

FEDERATION TO MEET FEB. 12

The next annual meeting of the Pennsylvania Federation of Sportsmen's Clubs will be held in the Forum of the State Educational Building at Harrisburg on Monday, February 12. According to Dr. A. C. Mortimer, Secretary-Treasurer, the meeting promises to be one of the most interesting in the Federation's history and a large attendance is expected. The directors, which constitute the Resolution Committee, will meet on Sunday, February 11, to go over the resolutions which are to be presented at the general meeting.



The above crates contain 819 rabbits purchased by the Tri-County Game & Fish Association, Pillow, Pennsylvania. They were transported in one truckload from Missouri.

LOST—In Forest County near Pidgeon-and-Marienville one 35 calibre Remington Rifle with name T. C. Dalton engraved on stock; also 30-40 Krag. Both guns were together. Finders please notify T. C. Dalton, 428 June Way, Braddock, Pa.

Grasshoppers may fly 15 miles in a day.

"We, the Jefferson Sportsmen's & Conservation League, received 100 six week old pheasants from the Game Commission last summer and placed them in a pen built to plans and specifications of the Commission. The birds were turned over to one of our members, Dr. John McNeely, knowing that a doctor should be able to give them the right medicine at the right time. And, take it from us, he surely did know, for when we went to release them last October Dr. McNeely informed us he still had ninety-nine of the one-hundred birds he started out with, and what fine birds they were! Your reporter has attended almost all the bird dog trials in this section this fall, but nowhere did he see a finer lot of birds than were raised under Dr. McNeely's care. We thought it grand, also, when we found that 60% of the birds were cocks.

"It would be a shame not to mention Mr. John Blair, our local Game Protector, in this report, for every time he was through our locality, he never failed to stop and see how the birds were progressing, and he was ready and on time to supervise the releasing of the birds."—Thos. F. Gwynn.

"The last time I stopped at the Stone Camp at Refuge 523, on December 20, the Japanese barberry hedge along the Camp porch was covered with berries. When I stopped at the Camp on Wednesday, January 3, I noticed where four different grouse had flown into the snow in the Camp yard and went directly to the barberry hedge. The snow under the hedge was packed down from the grouse walking on it, likewise the snow on the edge of the porch next to the hedge. There were only a few scattered berries remaining on the hedge. While the ground was bare nothing seemed to work on the berries, but as soon as the snow came the grouse located and fed on them so extensively that in a few day's time the hedge was practically stripped of all berries."—Game Protector David Titus, Huntingdon County.



Left to right: 1—Old weed fields and orchards grow wild in parts of the refuge. 2—Warning sign on highway near refuge. 3—Members of the Schuylkill Haven Fish & Game Association releasing ringneck pheasants held over after the 1939 hunting season.

A DAY AFIELD

By C. NEVIN SHERLOCK*

I am going to tell you about a day that was spent in the field during the small game season, having had the privilege of accompanying one of my best friends and hunting companions in quest of quail and ringnecks. The day was ideal, one of those perfect autumn days with sun shining brilliantly and a nice breeze blowing from the west.

I stood in the wheat stubble field adjoining my boyhood home, and watched my friend's little liver and white pointer quarter her ground against the west breeze, head high in the air; suddenly I noticed the slowness of her pace, cautious and careful so that she would not make a flush, because her nose was telling her that birds were close. Then like a flash, the point; she had found her quarry. There, staunch as the Rock of Gibraltar against a perfect horizon, stood "Tuscarora Pat", awaiting the approach of her master and me to make the flush.

Thrilling moments like this have been experienced by many sportsmen who have followed good dogs in quest of small game. The birds were flushed, followed by the reports of our guns. Then came the command, "Dead bird, Pat". The little pointer found the dead quail, picked it up gently, and brought it back to her master, sat down at his feet, looked up at him with the bird in her mouth, as much as to say, "Did I do it all right, Old Boy?" The little pointer knew, as did my companion and myself, that she had completed a perfect bit of dog work. I turned to my hunting pal and said, "Well, Alex, I realize now more than ever why

**Acting Chief, Div. of Dog Law Enforcement, Dept. of Agriculture.*



"Tuscarora Pat"

sportsmen have Field Trial Associations, and hold field trials."

Through the facilities of these Associations, sportsmen have an opportunity to get valuable information concerning the Sporting Dog, as to the different breeds, blood lines, etc. It's a known fact that in recent years more interest is being shown in dogs. People may ask why. My answer would be because well bred, well trained dogs are worth owning.

Then we talked of the poor mongrels, the unwanted, stray unlicensed homeless dogs, that are a menace to livestock, poultry, private property, wildlife, and sometimes even human life. Some one, somewhere at one time or another has been the owner of dogs of this nature. Through carelessness and neglect, not caring for the companionship of dogs, they have been responsible for this unlawful condition.

The Department of Agriculture, through the Dog Law Enforcement Division, enlists the cooperation of Field Trial Associations. The Pennsylvania Game Commission, Pennsylvania Fish Commission, Police Officers, and all associations or individuals that are interested in dogs in order to eliminate these conditions, and to educate dog owners as to the importance of giving their dogs a good home, proper care and shelter. If dog owners would do this, the unwanted, unlicensed, uncontrolled dogs would not exist. Dog owners will be given fair warning, and will be expected to comply with the law to avoid prosecution. Pennsylvania can look forward to a continuation of an efficient dog law enforcement program for the year 1940. The one absolutely unselfish friend that man can have in this selfish world, the one that never deserts him, the one that never proves ungrateful to him, is his dog.

STOLEN—Beck's Buff Coonhound; Walker and Redbone Breed; Male 8 years old. Stolen Tuesday, December 26, 1939. Buff White Body, legs, tail, and nose mixed with a few brown spots. Brown ears, half brown head. Has brush tail and very long large mouth, short ears. Looks very angry. If found return to George Heaknecht, Jr., 231 Horne St., Topton, Pa. Reward.



LOST OR STOLEN

LOST OR STOLEN—\$100.00 REWARD—Reward for return or information leading to the recovery of Dumbarton Dictator—Male Beagle—answers to the name of "Stewart" or "Dictator"—14½ inches high—was lost or stolen November 11, 1939—between Warrendale and Baden, Pa. He has a black blanket with tan trimming—white on breast and around neck—tail partly white—feet white with small brown ticks (or dots) on them. with small brown ticks (or dots) on them.—Helen J. Dengler, 1003 Constance Street, N. S., Pittsburgh, Pa.

LOST OR STOLEN—Male Beagle and Fox Hound age 18 months. Has large tan ears, white blaze down middle of face, black and white saddle with black and tan hind quarters, tail black and white, legs white. Answers to name of "Rags". Has Pittsburgh license plates. **Reward.** Notify George Schmidt, 402 Ormsby Ave., Pittsburgh, Pa.



STOLEN—One coon hound near Meadville on the night of December 2. Was wearing collar with Crawford County license No. 4698. Color—blue tick with large black spots. Answers to name of Rock. Notify L. T. Grinnell, RD No. 5, Meadville. Reward offered.

LOST—In Pittsburgh District, Gordon setter, female, all black except a few white hairs on chest. Wearing tan collar with Clearfield license. Any information concerning her will be greatly appreciated. Frank A. Willison, Pittsburgh, Pa., Schenley 1788.

WHAT PRICE SPORT?

(Continued from Page 9)

Although the range was well over a hundred yards, I nevertheless decided to chance a shot. As I trained my rifle on the lone buck I was singularly aware of the silence that gripped the mountains. The jocund chirps of a few chickadees in a nearby copse and the distant reports of rifles only enhanced it. I thrilled at the thought that there could not possibly be any other hunters in the vicinity.

Upon squeezing the trigger the resultant report was flung back in a hundred wild echoes. The deer went down.

"It's a paunch shot," my companion excitedly indicated. "Hear him roar? We'll have to get over there in a hurry," he added as he started down the hill.

Then a shout from over across was answered by what sounded like a dozen. In a moment I saw men scurrying from all directions toward the snorting, mortally wounded buck. "And I thought we were alone," I said bitterly as I hurried toward my quarry.

When I arrived on the scene the stricken animal was surrounded by a dozen or more individuals watching two others as they administered the *coup de grace*.

I stepped forward and stated that it was my shot that had felled the animal. The two proceeded with the butchering, completely ignoring my claim.

My companion touched me on the shoulder. "Let's go look for another," he said. "These fellows are just a couple of good butchers." What I called them is not for publication.

On that same day a drive was in progress farther down the valley. As the drivers came closer, a small doe slowly running along on three legs hove into sight. Immediately the woods on both sides of the valley belched fire. How that crippled animal succeeded in reaching heavy cover before being hit again is only short of miraculous.

Many of you who read this will probably say that things are different nowadays. Granted. But does that fact justify the utter lack of sportsmanship that many hunters exhibit?

This dire lack of a necessary adjunct to any sport can be attributed to the existing conditions. The easy hunting, or rather the ease with which a deer may be bagged, has placed individuals in the field who know not the most rudimentary principles of the sport. In a large measure they compromise those who experience a bombastic satisfaction in dragging home the carcass of a deer and parading it before admiring friends. He's the varmint that persistently toots his horn in front of your home at an outlandish hour to get you to come out and see the trophy gracing a fender of his car. Another that may be included in the same classification is the fellow I know who shot a tethered nannygoat on the outskirts of a town in the deer country. Upon discovering his error the chagrined but not at all embarrassed hunter went out that very afternoon and blew a hole through a retired mine mule; nipping in the bud a well-deserved period of blissful contentment.



Beaver cuttings. Beavers were once exterminated in Pennsylvania but a pair donated by the State of Wisconsin in 1917 and twenty-four pairs subsequently purchased from Canada formed the nucleus of what is now a rather large beaver population.

Upon relating the goat-mule story to a couple of deer hunting friends of mine, they promptly stuck their tongues in their cheeks and exchanged doubtful glances. Yet, one of them expected me to believe the yarn about an acquaintance of his who had mistaken and shot his companion for a groundhog.

It is difficult to believe that less than a quarter of a century ago the annual kill of legal bucks in Pennsylvania was a little better than a thousand head. Compare that figure with the 1937 kill and you cannot help but see that the changes taking place during the intervening years have been actually phenomenal. One fact is obvious, and that is that the deer population has kept pace with the mounting tide of hunters. The most sanguinely enthusiastic of the old timers could not have visualized the kill of 39,347 legal bucks in 1937. Neither could he have envisioned the hordes of hunters that teemed in Penn's Woods.

I am not endeavoring to advance new ideas or prescribe a panacea for the ills of our deer situation, although it wouldn't be amiss, for practically every hunter who has been in deer country has advanced some solution or other. We all know where the trouble lies. But in our egotism we are unwilling to entrust those whom we have retained as experts for the solution of such problems. It's paradoxical. Imagine a patient attempting to tell a surgeon how to remove his appendix.

Just the other day an experienced deer hunter told me that in his opinion the killing of does was not started soon enough. Then, I have heard equally informed hunters claiming that does should not be molested and should never have been; adding that natural processes will take care of any unnatural balance. Then again, we have the advocates of the alternate season; possibly the most feasible idea yet advanced. Yet, there are those who are so rabidly opposed to it that

they would sooner disrupt the personnel of our Game Commission rather than see the plan adopted and practiced.

In the meantime, while all these controversial issues are being debated, the Commission functions as well as it can, attempting to satisfy all factions and at the same time adequately handle the problem. What the critics do not see, however, are the inexorably slow and infinitely wasteful processes of nature accomplishing what human agencies have been and are so futilely attempting.

Natural reduction of the deer herd in Pennsylvania will be necessarily slow because of the present almost complete absence of the whitetails' natural enemies. Eventually however, starvation, disease and other agencies will have their innings. Then, during that interim when the deer will all but disappear from our hills, forest growths suitable for deer food, especially where lumbering operations are underway, will have a chance to recuperate or re-establish themselves.

Only then will the whitetail again come into its own. Once again we may see great stags with buttressed and scraggly racks, full of craftiness and vitality, striding through our forests, ready to pit themselves against any of man's subterfuges.

Then and only then, will the hunting of deer again become imbued with the glories of the past; when men who are fit for the fray will annually gather for the fellowship and thrill incidental to so noble a sport. Summarily, the reduction of the deer herd means its improvement. Bigger and fewer deer will make for better sport and develop better sportsmanship. This is not a hypothesis but a prophecy. The direction we are tending is apparent. The element of time is the only uncertainty.

A Study of Pennsylvania Woodcocks

(Continued from Page 7)

short time the male made another flight song. This procedure was carried on in the evening until it was nearly dark and in the morning just before sunrise. Usually about 12 such flights were made during a singing period.

This vociferous and energetic display by the male woodcock was apparently an exhibition designed to attract a mate. Occasionally other woodcocks that were near the singing grounds alighted while the males were performing. The females made no courtship flights, but they were not mute. They could attract the attention of the males by peenting or cooing, and like their mates, they uttered cackling notes while flying low over the singing area. This cackling sound was similar to the chattering notes of the Baltimore Oriole.

Woodcock courting activities were performed from a small grassy opening called a singing ground. It is generally believed that each woodcock utilizes one singing ground, but in the barrens of Centre County most of the male woodcocks used two or three small singing grounds. Ordinarily, one of these openings was used more often than the others.

There was considerable variation in the size and shape of the singing grounds, but they were similar in other respects. A detailed description of a typical singing ground will illustrate the type used in the barrens area:

Woodcock No. 3 used three small openings as singing grounds. These closely associated, but distinctly separate, small areas were grass-covered and fairly level. Each was surrounded by a dense growth of scrub oak, panicled dogwood, and hazelnut, 2 to 4 feet in height. The primary singing ground—covered mostly with short grasses and numerous scattered scrub oak and panicled dogwood stems, 6 to 12 inches high—was 24 feet wide and 42 feet long. Two similar, but less frequently used, open areas were a short distance from the primary singing ground. One of these auxiliary areas, 10 feet wide and 13 feet long, was 45 feet southwest of the main singing ground; the other grassy area, which was 11 feet by 14 feet, was 100 feet to the south.

Measurements of 40 primary singing grounds on the barrens area showed that the average size of the openings was 21 by 37 feet (figure 3). The largest opening was 47 feet wide and 54 feet long; the smallest was 5 feet by 12 feet. Aldous (1938) states that in Maine the minimum size appeared to be about 66 feet square, although one was located in a narrow logging road. A comparison of the dimensions indicates that the singing grounds in the barrens area were exceptionally small.

Forty-five singing male woodcocks were observed on the 950-acre tract. The maximum breeding population on the area was not determined, but it was found that on the study area there was one singing male to about every 21 acres of available singing ground territory. It would be a simple matter to determine the total population of woodcocks on the area by doubling the number of singing males if they were definitely known to be monogamous. Evidence was obtained, however, which indicated that woodcocks may at times be polygamous.

On the barrens area there was an abundance of open areas suitable for singing grounds, and each male woodcock probably had his choice of a large number. Many openings, apparently identical to those used as singing grounds, were not occupied. The shortest distance between any two singing grounds was 215 yards. In Maine, Aldous and Mendall (1939) found that two males were singing only 70 yards apart. For convenience the distances between singing grounds were grouped into 50-yard variation classes. Of 38 measured in the barrens area, four were 200 to 250 yards apart; six, 250 to 300; ten, 300 to 350; seven, 350 to 400; three, 400 to 450; and eight, over 450 yards apart. There were several unused openings between the more widely separated singing grounds, but the reason for their vacancy was not determined.

Lack of a suitable bait has retarded the development of methods of trapping woodcocks. Because they exhibit certain territorial claims during courtship activities, it was thought that males on a singing ground might fight. It occurred to the writers that, if this were true, a mounted male bird placed on a singing ground might be useful as a bait for trapping.

To test the reactions of the singing males to such a decoy, a mounted male woodcock was placed on a known singing ground

before the evening flight period. The decoy was mounted in a standing position, and the wires protruding from the feet were thrust into the ground to hold it firmly in place. The observer, concealed in the shrubs 25 feet from the decoy, was able to see the general movements of the male bird at all times.

The decoy was first noticed by the singing male at the conclusion of his third flight song. Instead of peenting in the usual manner, the male raised his wings to a vertical position over his back, and, uttering the "took-oo" note, approached the decoy. The expected attempt to drive off the intruder did not take place. Four times before his next flight song, the male tried to copulate with the mounted bird. While on the back of the decoy, the male continually fluttered his wings but stopped the "took-oo" note, which he had repeated constantly up to this time. At the close of the evening singing activities, the male had made 27 flight songs and had attempted 21 times to copulate with the decoy.

The reactions of numerous other male woodcocks to similar decoys continued to be amorous. All males, however, were not readily inclined to accept the decoy, and a few birds continued their normal routine in its presence. When traps were placed under the decoys, 52 percent of the 31 males observed readily attempted to copulate with the decoys, 13 percent attempted copulation after an initial indifference, and 22 percent showed no interest in the mounted birds. The remaining 13 percent failed to see the decoys, which were misplaced.

After desirable reactions to the decoys were observed, a series of experiments with various traps was begun. The trap shown in figure 4 was considered most satisfactory after 14 singing males had been caught. Enlarged jaws were added to a No. 3 steel jump trap by welding $\frac{1}{8}$ -inch wire, bent in a semicircular shape, to the ends of the original jaws. The enlarged jaws were then covered with gill netting. To hold the pan of the trap tightly against the small wooden block placed beneath it, a rubber band was stretched between the pan and the base of the trap. When the block was removed by pulling an attached cord, the rubber band pulled the pan down and released the trap. The decoy was placed in the center of the enlarged jaws and facing away from the pan of the trap.

Singing males often left their singing grounds to chase other woodcocks flying low over the area. They also flew to the "peents" of other birds, presumably females, on the edges of the singing grounds. From these observations, attempts to call singing males to misplaced traps and decoys evolved. Although the "peents" produced by the writers varied among themselves and were noticeably different from those of the woodcocks, all the writers were successful in calling some males. Nine of the 24 males called responded to the false "peents", and these birds often came within 3 feet of the observers. The woodcocks uttered the cackling note when flying toward the source of the "peents", real or imitation, and readily attempted to copulate when the decoys were seen.

Trapping and tagging did not affect the mating performances of the males. They usually returned to the singing grounds to finish their flight songs within 5 minutes after they were banded and released.

Information obtained by trapping male woodcocks on singing grounds may be twofold. Migration routes and seasonal movements, which as yet are only generally known, may become

(Continued on Page 30)



A woodcock singing ground.

The Struggle for Existence

(Continued from Page 11)

And to the sportsman: Remember the struggle for existence before emitting a grumble about lack of game or fish. As stated before in this article, dumping carloads of game, no matter how much game, is not the answer to better hunting. Nature with her law of eternal struggle for existence will allow only a certain limited amount of game in a territory. Over-stocking will only result in Nature putting the pressure on to stamp out surplus individuals. Nature does not, cannot take into consideration that "more guys hunt now than years ago, and more license money means more money for stocking purposes." Nature has less wild territory now than ever to harbor her children, and she will never change her laws. The weak must die.

One can't battle the forces of Nature with easy success. Cooperation is the salvation. That means curbed seasons. That

means less killing. That means game preserves. Stocking, however vital, is only a drop in the bucket.

The Game Commission's refuge policy is commendable. Again Pennsylvania leads the conservation trail. But even here lies possibilities for evil. During hunting season countless game is driven into havens. But remember the animals follow food. The fox, the weasel and the wildcat will follow in the wake of their prey and unless controlled will propagate and flourish. Predators will have to be controlled on refuges to do the utmost amount of good for the sportsman.

Delve into forest and wildlife management and you delve into an almost hopelessly intricate but fascinating study. Likewise be assured that mismanagement of forests and wildlife will not be long in showing, for Nature is quick to respond. The balance of Nature is a temperamental thing, and must be handled with great care.

BABES IN THE WOODS

(Continued from Page 3)

issued in the United States. Their accident report shows 45 fatal accidents, 336 non-fatal accidents, or a total of 381 hunting accidents. Analysis shows that this means one fatal accident for every 13,363 licensed hunters and one non-fatal accident for every 1,790 licensed hunters.

Let's look at these fatal accidents in one state.

Out of the total of 45, 24 were self-inflicted and 21 were inflicted by others. Of the non-fatal accidents, 59 were self-inflicted and 277 inflicted by others. Added up this means 83 self-inflicted and 298 "accidental"—78% of the accidents caused by other than the individuals themselves.

The victims showed 149 under the age of 21 years and 232 over that age, a percentage of 39 and 61. Of those inflicting the injuries, 68 or 23% were caused by persons under 21 years of age and 220 by persons over 21 years of age; plus 10 by persons unknown.

Fifty-two of the accidents occurred while hunting large game and 329 while hunting small game. On the other hand, in the fatal accidents, 49% occurred while hunting large game and 51% while hunting small game.

These reports indicate plenty of pure carelessness. Shotguns caused 331 of the accidents, rifles 48, and revolvers 1. Of these accidents, 134 occurred in open fields, 103 in brush, 61 each in open and dense woodlands, one in a conveyance, 4 in camp, 9 on woods roads, and 8 on public highways.

Some 249 of the accidents occurred while the victims were standing, 24 while bending over, 95 while walking, 5 while entering a car, and 8 under varied conditions.

Pennsylvania even considered the weather in investigating their hunting accidents. Some 307 occurred in clear weather, 23 in rain, 12 in snow, 7 in fog, 22 on cloudy days, 7 at dusk, and 3 after dark.

The victim himself is frequently responsible for accidents. Clothing is very definitely a contributing cause. Hunters wear miscellaneous types of equipment in the woods. Some of them dress in suitable bright red; others in somber dark affairs which can be mistaken for almost anything.

Of Pennsylvania's 381 accidents, 198 of the victims wore no red whatever, 84 wore a red

cap, 27 wore a red back on their jackets, 72 wore a combination of red caps and red backs. Thus it can be seen that only 48% of the victims wore any form of red, whereas 52% had no distinguishing colors.

When this here writing chap goes into the woods, he looks like a movie conception of a volunteer fireman, wearing a bright red cap and jacket and usually bright red breeches of a hue quite popular with the gals in their fancy ski suits. He wants to be seen—not guessed about and shot at.

In the figures given above there is no particular reason to pick on Pennsylvania except that Pennsylvania is sufficiently progressive to analyze thoroughly their accidents in the hope that they may profit by it. Other states have their proportion of accidents,

most of them having more, considering the number of licenses issued, than the very excellent game state above-mentioned.

This survey that we started is proving helpful to the various states. In a great many cases it stimulated Fish & Game Commissions to demand that their game wardens and other investigators report the excuses given by individuals causing accidents. In other cases, it brought about far more complete requirements for future investigations than the past has offered.

In this same year of 1937, South Dakota reported only 4 accidents, all of which occurred out of the hunting season by persons hunting.

Missouri keeps no record of hunting accidents and they have no state law to suspend licenses and report that criminal action is very seldom taken. That's a nice state to live in. If you don't like some chap, talk him into going hunting, then bop him in the woods and you are safe.

Montana also keeps no record but does have a law requiring hunters to wear bright colored clothing.

Nebraska was interested in the survey but had no record of accidents.

New Hampshire had 8 accidents, only 1 of which was a case of the victim being mistaken for game. The other 7 were carelessness in gun handling but were not self-inflicted. The one mistaken identity case showed that the victim was wearing a grey cap, tan jacket, dark grey pants, black stockings, and leather-topped rubber boots. Did he or did he not invite that bullet?

New Jersey reported 22 accidents. No data was available on them. In hunting deer they permit only the use of shotguns with buckshot instead of rifles. There is no control of such a charge and the persons making that peculiar law are more or less indirectly responsible for the accidents. I've seen too many tests of buckshot.

In New Mexico, they had 4 accidents, 3 of which were self-inflicted and one mistaken identity. Investigators reported that the victim wore a red cap, red bandanna, and a red shirt; over the shirt and bandanna, he wore a brown leather jacket.

Alabama had 17 accidents, 4 of which were mistaken identity and the remainder were either carelessness or self-inflicted. The authorities had no data on clothing.



Bill Douglas, well known Dauphin County sportsman and skeet ace asks, "Did this ever happen to you?"

Apparently, the great State of California had no interest in hunting accidents. Two letters addressed to them brought no response whatever.

New York State acknowledged the request for information, promised it, but despite several requests, never got around to fulfilling the promise.

North Carolina reported 57 accidents, 4 of which were caused by mistaken identity and all victims in this case wore dark clothing.

More and more throughout the investigation did the matter of clothing appear to be prominent. Ohio reported two cases of mistaken identity, both wearing grey clothing. Oregon had seven accidents with three cases of mistaken identity, two of which were dressed in dark clothing. The other chap had a red cap, red shirt, and a red and grey sweater.

Rhode Island came through with a report of three accidents, two being mistaken identity and both wearing light brown clothing.

The State of Washington reported 15 accidents, involving 3 red hats, 2 red shirts, 5 dark grey hats, 3 dark or grey coats, 5 dark or grey shirts, and 8 dark or grey pants.

Wyoming submitted one of the most unique reports. They indicated that they had had no serious accidents since 1929. The law there requires bright red cloth on the hat at least 18 inches square. Furthermore, Wyoming has open country where the bright color can be seen for some distance.

Further analysis of these reports reveals some interesting cases of mistaken identity.

Ohio reports that two chaps wearing grey clothing were mistaken for squirrels and were wounded. One hunter wearing a grey sweater shoved his arm out in back of a tree to rest it on a branch. He got a bullet in it.

Does a man look like a squirrel? That's not such a foolish question. In wandering through dense wood growth, only a portion of the body can be seen and one can appreciate that this might appear to be a squirrel running along on a low branch, particularly to the hunter seeking squirrels. An optical illusion frequently presents itself.

North Carolina reported that three persons were mistaken for deer and one mistaken for a squirrel. All of these victims wore dark colored clothing completely devoid of red.

Back a few paragraphs in the discussion of New Mexico's hunting accidents, you will note reference to one case of mistaken identity. New Mexico reported through the state game wardens as follows:

"The party who did the shooting never would make any excuse or statement to those who questioned him. The New Mexico game laws do not have any section covering such accidents, if they may be considered accidents."

Self-inflicted accidents? How are they caused?

Would you feel very comfortable if someone you didn't like pointed a gun in your face and you could see his trigger finger twitching and aching to touch off the lethal charge? No?

Then why does the hunter crawl through a fence or beneath a blow-down in the woods dragging his gun by the muzzle with said muzzle pointed directly at him with the pos-



Photo courtesy of S. A. Hoffman, Center Daily Times, State College.

Killed in the vicinity of Spartansburg, Crawford County, by Walter W. Simonds. It weighed 190 lbs. hog-dressed. Mr. Simonds is assistant Professor of Forest Extension at Pennsylvania State College.

sibility of the trigger or other parts of the mechanism catching on something and thus creating an accidental discharge?

Did you ever carry your gun so that in rough going if you should fall down, the gun muzzle might get mixed up with your anatomy while the trigger was being touched off? Why? Do you stand a loaded gun beside a round, smooth-barked tree so that it could fall down and be accidentally discharged in your direction?

Safety in the woods with firearms requires the application of common sense. This hunting accident problem is one involving every individual in the woods, whether he be careless or not. He may use safety precautions himself but some other individual might get careless. Use the same intelligence you would use behind the wheel of a car or in crossing a street on foot. The chap who tries to navigate around a busy city street through heavy traffic and does not take pains to use his eyes, doesn't live very long.

Use plenty of bright colored clothing. It will not scare game. Did you know, for instance, that deer are color blind and that they are no more frightened of a bright red jacket than a soft grey or dull black jacket? It is movement and suspicious action which frighten most wildlife. A red cap is very little protection. Many times in walking through the woods only a portion of the body is visible. Some hunters will shoot at anything they may see and some hunters are worse than that in that they will shoot at a rustle in the bushes.

Don't wear white in the woods. Don't carry a white handkerchief. Red handkerchiefs and red bandannas can be readily obtained for the hunting trip. A man with brown or tan clothing, reaching into a hip pocket to withdraw a white handkerchief in the woods looks suspiciously like the south end of a deer headed north. It's an invitation for a bullet.

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A YEAR OF PROGRESS



Tacking up signs on one of the many State Game Propagating areas established last year.

(Continued from Page 5)

Program" and the sixth edition of 10,000 copies of bulletin No. 11, "More Food for Upland Game" were distributed to sportsmen and interested landowners. Several thousand colored posters designed to increase interest in wildlife food planting and protection from forest fires also were prepared and distributed widely.

Regular maintenance work was also carried on in connection with State Game Lands and Refuges including the mowing and posting of refuge lines, cooperation with the Department of Forest and Waters in controlling forest fires, marking of boundary lines on State Game Lands, maintenance of roads and trails for protection and administration, maintenance of more than twenty buildings comprising Refuge Keepers headquarters, and other miscellaneous projects.

Research

Research also played a very important part in the program last year, and the Commission was able to extend its work in this field under the Federal Aid in Wildlife Restoration Act, which provides that seventy-five percent of the total costs of approved projects be borne by the Federal Government. The projects conducted under the Federal Aid Act include:

1. The completion, in August 1939, of a one year survey of the fur resources of

Snyder County, which had been selected as a sample area considered representative of the state as a whole. A survey report of this study will soon be printed and distributed. Work on other phases of the study is being continued, while a second project was begun in November. The latter is concerned specifically with the muskrat and the food habits of red and gray foxes and the common skunk.

2. The undertaking of a five-year deer breeding experiment in September 1939. This will eventually embrace a herd of approximately two hundred individuals. It is designed to furnish definite information on the breeding potential of the species, as well as the effect of varied food conditions upon the sex-ratio of the progeny.

3. The inauguration, in October 1939, of a five-year study designed to furnish information as to the best techniques to be followed in improving food and cover conditions for small game. This study will involve basic research both in the field and in the laboratory.

4. The establishment, in July 1939, of a wildlife experiment station on lands immediately adjacent to the Loyalsock State Game Farm.

In addition to the above program the Commission has continued its cooperation with Pennsylvania State College and the Bureau

of Biological Survey in the operation of the Pennsylvania Cooperative Wildlife Research Unit at State College. This organization is engaged in a general program of game research. Also, during the summer months, a study designed to discover the incidence of tularemia in native Pennsylvania birds and mammals was inaugurated by the School of Animal Pathology of the University of Pennsylvania. In this the Commission cooperates by helping to supply specimens for examination.

The principal activities carried on with the Commission's own funds include:

1. A program involving the banding of game birds and the tagging of certain mammals, was carried through its fourth season last year. Over 90,000 specimens have been marked and released. The returns from these have exceeded 3,500.

2. Last year also marked the completion of an intensive two-year study of the food habits of Pennsylvania hawks and owls. Over 3,200 specimens were examined. A detailed report of the investigation is now being prepared for publication. A summary of the first year's work was published in 1938.

3. The past year also marked the fourth season in which the operation of three controlled shooting areas was carried on. These check areas are designed to furnish detailed information on the recreational production, both in the form of hunting hours and in game harvested, which may be expected from representative land areas. A report on the results obtained from the first two years' work was presented in 1937, while the four year report will shortly be prepared.

4. A series of experiments in physiological ecology made possible with the aid of specially designed laboratory apparatus constructed in 1938 was continued last year. These experiments concern habitat requirements, winter-killing, racial differences and similar problems. One bulletin and a series of shorter articles covering these experiments were published during the year.

5. A detailed ecological study of Wildwood Park, a State Game Propagation Area at Harrisburg, was conducted and will be continued in 1940. This project is designed to furnish greatly needed information on predation, the results of restocking, and similar problems.

Other activities included field surveys pertaining to deer, Hungarian partridges and other species, together with the investigation of disease problems at the State Game Farms and incidental work of a related nature.

Game Propagation

Game propagation also plays an important part in the Commission's program and thousands of ringneck pheasants, bobwhite quail and wild turkeys were produced and shipped from the Game Farms as follows:

Total Shipped—Game Farms

Ringneck Pheasants, adult & young...	34,323
Ringneck Pheasants, six weeks old...	12,889
Ringneck Pheasants, day old	21,877
Bobwhite Quail, adult & young.....	6,300
Bobwhite Quail, six weeks old to sportsmen	1,584
Wild Turkeys	767

The Commission also purchased considerable game for restocking purposes last year, including 20,328 ringneck pheasants, 9,972 Hungarian partridges, 148 bobwhite quail, 68,592 cottontail rabbits, and 161 raccoons. Relatively few genuine Northern bobwhite quail were available for spring delivery but the Commission has been successful in purchasing over 9,000 of these birds for delivery this coming spring.

The trapping program was also greatly expanded, 22,980 rabbits, 1,820 ringneck pheasants, 63 bobwhite quail, 56 raccoons, and 862 squirrels having been removed from areas where no hunting is allowed and released on lands where hunting is permitted.

Five more special wild turkey areas were established, bringing the total to fourteen—ten as mating areas and four as stocking areas.

The cooperative propagation program between sportsmen's organizations and the Commission was greatly improved and expanded. Three trained propagators from the Game Farms advised and assisted sportsmen in this program and it proved quite successful.

The Loyalsock Game Farm was also improved and expanded to permit more efficient operation and higher production of birds. The Commission also approved the expansion of its bobwhite quail production program at the Fisher Game Farm to a maximum of 20,500 birds annually.

A complete examination and selection of breeding stock on several farms was carried on and the finest Chinese ringnecks and Northern bobwhite quail attainable were selected and purchased for the purpose of improving the strain.

Game Released

Approximately 150,000 pieces of game were released in the Commonwealth last year including 37,161 pheasants, 6,107 quail, 221 ducks, 217 raccoons, 471 Chuckar partridges,

9,972 Hungarian partridges, 867 wild turkeys, 34 geese, 91,572 rabbits, and 862 squirrels.

Game Protection

Quite a few game law violations occur every year, and 1939 was no exception. Field officers brought 4,026 prosecutions and collected \$87,946.97 in penalties last year.

Every year some landowners have damage to farm crops, orchards, and nurseries by deer. Here again 1939 was no exception, consequently the Commission supplied 2,025 rods of deer fence costing \$3,250.22 in an effort to satisfy these complaints. These demands were much lower than prior to the 1938 doe season.

The Commission also received 24 claims for payment of damages by bears to livestock, poultry, and bees. These claims covered the killing of 1 heifer, 33 sheep, 3 hogs, and the destruction of 7 beehives, for which the claimants asked \$446.31. All claims were paid except 3 covering the killing of 3 sheep.

Miscellaneous Activities

Bounty claims during the year totaled 20,309. These claims amounted to \$60,137.50 and were paid for the killing of 43,159 weasels, 9,318 gray foxes, 608 great horned owls, and 30 goshawks.

Over 1200 special permits were issued by the Commission last year. These are summarized in the following table:

Kind of Permits	No. Permits Issued
Taxidermy	183
Ferret Breeder's	2
Ferret Owner's	13
Propagating	200
Collecting	20
Fur Dealer's, Employee's Permits...	44
Resident Fur Dealer's (\$10.00)....	410
Non-Resident Fur Dealer's (\$50.00)	24
Fur Farming	132
Field Trial	41
Menagerie	46

Regulated Shooting Grounds	13
Fox Hunting Club	18
Retriever Trial	3
Archery	58
Total	1207

Education

Considerable stress was placed on education during the past year, lectures and motion pictures having been presented at over 500 meetings having a total attendance of well over 200,000 persons.

Special efforts were made to have staff employees appear before the schools and farm groups, but they also attended many sportsmen's meetings, picnics, and field days.

Over 6,000 feet of 16mm colored motion pictures were prepared and released. Each field administrative division was equipped with a motion picture projector, screen and films, and from now on these offices will supplement the work of the Harrisburg office, thereby more widely extending the visual program. New motion picture subjects prepared and released last year include wild turkey hunting, winter feeding, muskrat trapping, wildcat trapping, Pennsylvania song and insectivorous birds, the history of wildlife conservation in Pennsylvania, the birds of prey, and a variety of miscellaneous subjects pertaining to wildlife and its management.

Several new bulletins were prepared and distributed including 100,000 copies of "Pennsylvania Wildlife", which covers the early and present history of the Commission, and which is profusely illustrated with many color plates of birds and mammals, fur-bearing mammals and predatory mammals. A bulletin on the Pymatuning Waterfowl Sanctuary and Museum containing many colored illustrations of ducks was also prepared and distributed, and a second edition of Pennsyl-

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Thousands of ringneck pheasants are held for spring release.

THEN AND NOW

PENNSYLVANIA has an area of 45,000 square miles. The eastern portion, known as the Atlantic slope, is largely undulating and hilly; the central is mountainous; while the western is made up of table-lands. The state is naturally a favorable one for game, which at one time was very plentiful, but which was largely diminished by commercial, manufacturing, and mining enterprises. Its geographical location, too, made it a favorable place for market-hunters, who helped materially deplete the supply.

The records of the late Dr. B. H. Warren, former state ornithologist, show the number of deer killed during the season of 1895-96 as follows: Potter county, 1895-96, twenty-five deer; Schuylkill, 1896, two; Snyder, 1895-96, from five to ten; Venango, 1895-96, probably fifty, later returns say five or six were killed in 1896; Warren, 1895-96, at least twenty-five; Wyoming, a few killed in the western part; Luzerne, 1895-96, eight; Monroe, about fifteen; Adams, about fifty in 1896; Mifflin, 1896, twelve to fifteen; Franklin, 1896, probably thirty or forty; Clearfield, twenty-five; in Lebanon deer were formerly quite abundant, but they are scarce now, only five or six being taken each year; in Fulton a few deer are killed annually; Tioga has a special law protecting deer for three years; the last deer reported killed in York county was in 1873; in Diamond valley, Huntingdon county, eleven were killed in 1896. Eight years ago about seventy were taken in this valley.

Black bears are by no means rare; about 150 are killed annually. The bay lynx or wildcat is common in many counties; in fact, these destructive animals are increasing in some sections. According to the records, as many as one hundred are taken annually by hunters in some of the counties. Raccoons are common, and are reported to do considerable damage in the cornfields in some sections; they are also said to destroy multitudes of brook trout when the streams are low. Opossums are very numerous in some of the southern counties. Otters are rare; probably not over twenty-five are taken annually. Mink are numerous about the water-courses; they are destructive to fish and poultry. Muskrats are common, and in some sections do great damage in cornfields. Groundhogs or woodchucks are abundant in many places, and are the cause of much annoyance. Gray and black squirrels are found everywhere. The foxsquirrel is rare, and is restricted to a few localities, being found chiefly in Cumberland, Juniata, Dauphin, and Mifflin counties.

The feathered game consists of wild turkeys, grouse, woodcock, quail, snipe, and plover of several varieties. Waterfowl of nearly all the migratory kinds are found. Rail shooting is good, and marshbirds are plentiful. Earnest efforts to restock depleted covers with quail have not met with deserved success; the severe winters have proved disastrous to the imported birds. Wild turkeys are fairly common in Juniata, Dauphin, Centre, Union, Snyder, Bedford, and Blair counties, and are sometimes observed elsewhere. Ruffed grouse are found generally throughout the state, except in some of the southeastern and southwestern counties. The best counties for grouse shooting are Forest, Elk, Potter, Clearfield, Wayne, Bradford, Centre, Union, Clinton, Lycoming, Luzerne, Pike, Cameron, Monroe, Susquehanna, Tioga, Warren, Jefferson, and Cambria. Wilson's or English snipe are quite plentiful about the meadowlands during spring migrations. Probably the best locality for snipe shooting is in northwestern Pennsylvania, in the vicinity of Lake Erie, in Crawford and Erie counties. During the spring and fall migrations there is very good shooting on the Susquehanna River, from Sunbury to Havre DeGrace, Md. At this time there is very good shooting at Presque Isle bay, Lake Erie. Rail (sora) and reedbird shooting is quite good along the Delaware River in September.

Quail shooting for the last two or three years, owing to the severe winters, has not been very good except in some few localities. Shorebirds are some years quite plentiful, during migrations, about Lake Erie's shores. Ruffed grouse have their number. During the season of 1896 at least 2,000 were shot in this county, where one pothunter captured about 700. The same may be said of Tioga county. It is reported that market-hunters sent to New York during the season of 1895 over \$5,000 worth of grouse, Wayne county has yielded many grouse and woodcock; it is said about 10,000 grouse were shot in this county during the season of 1896. Westmoreland county yielded about \$1,000 worth of game in 1896, consisting chiefly of wild turkeys, grouse, quail, rabbits, and squirrels.

Five merchants in Wilkes-Barre, from October 1895, to January 1897, sold 3,500 grouse, all, or nearly all, of which were killed in Luzerne and the neighboring counties. One Luzerne county hunter is stated to have marketed about 1,200 grouse, killed in that and neighboring counties. York county formerly contained a great deal of game. A few years ago fully \$8,000 worth was annually shipped from this county, but market-shooting has greatly reduced the game. From five townships in York county in 1896 there were sent to the market 1,800 quail, 2,800 rabbits, and 3,000 wild ducks. In 1896, from September 1 to December 31, inclusive, a firm in Susquehanna county purchased 3,000 grouse, 1,500 quail, 30,000 squirrels, and a large number of rabbits (40,000 or 50,000), which were sent to New York. The value of the game marketed in 1896 from Bradford county is given as fully \$16,000. Three gunners in the northeastern part are said to have sold 540 grouse during the season. Gray squirrels were very numerous in Bradford county in recent seasons, and thousands of these animals were killed and sold.

Copied from the book entitled, "Where to Hunt American Game". Published by United States Cartridge Co., Lowell, Mass., in 1898. Sent to the Pennsylvania Game News by J. Henry Werbeach, Fairport Harbor, Ohio.

The Mail Bag

"I've hunted since I'm twelve years old in Pennsylvania, Arizona, and California, from the mouth of the Amazon River to the western slopes of the Andes Mountains, in Bolivia, Peru, and Brazil, but I never saw such cool and deliberate shooting as my thirteen year old daughter Betty did on the first of December last—her first deer hunt.

"It's 10 A. M. and we are going along quietly. Two shots ring out nearby and we stand alert ready for that anticipated appearance of a big buck. Out of the spruce he comes making about 40 feet to each jump. I saw him first. Bang! says my 30-40 but he never flinched. Out steps this thirteen year old girl and starts pumping her 25-35. Down he goes at the first shot, up again, another shot and down he goes again. He goes about 50 yards into the brush and out he comes into a little clearing with this young lady right on him blazing away, this time with a fatal shot through the neck.



Brush and rock cubby set for the taking of fur-bearing animals.

"All this time I'm just standing by enjoying the performance. You see I have no boys. Well, during this time Mr. Buck made about a 150 yard circle. He's down for good now. So, I hobble over—I've just got one good leg—and take a post mortem on him. He's a 12 pointer with a perfect rack. He has two shots in the left front shoulder, one front leg badly hit, two points shattered on one rack, and that wonderful neck shot. She fired seven shots and never hesitated or waited for any instructions from me, who has been coming to this same bit of deer country for seven years, and still looking for my buck.

"I'm 55 and enjoy the woods, game or no game, and expect to follow the trail for many years to come. No big game expedition ever went to Africa and had a better time than me just hunting in Pennsylvania. All I need is a nice piece of woods, a dog, a good companion, and I'm hunting."—Geo. Birkel of Baden, Pa.

"I am sending you a copy of the Galetton Leader-Dispatch, giving an account of the open season on antlerless deer in that section, and I agree with them on most all points except the exam for hunter's license, and here is my reason.

"Anticipation and expectation are greater than realization and a great many hunters work themselves into a fever of excitement over the prospect of getting game that they are not normal by the time they reach the hunting grounds, and I know of no method that would state the exact condition of said hunters mind at all time. Now if you exam a half million hunters and pronounce them safe and sane at the time, arm and equip them for hunting, turn them loose in a small area after deer and you would find that keen competition and excitement would produce at least a quarter of a million maniacs. My opinion is open season on antlerless deer should be all over the state or not at all, as that would spread the hunters out and there would be less maniacs, as competition would not be so keen, the space not so crowded and less danger all around."—John M. Gaylor, Wellsboro.

The following letter was received from J. F. Grubb, Branchton, Pa.

"This spring a man by the name of R. C. Christy and his son were sledding mine posts out of the woods for me. About the middle of the forenoon I thought I would drive out and see how they were getting along. Upon arriving I found Mr. Christy and his son out at the road with a load of posts. He said to me, "Did you see those two big snakes lying on the road?" I told him I had not but on investigating I found a couple of large blacksnakes.

"Here is the story. While unloading a load of posts they heard a little rabbit squealing. Mr. Christy said to his son that it was either

a weasel or a snake and to be careful as it was hard to say just what kind of snake it might be. Upon investigating they found not one snake but two. These snakes were laying over a nest of small rabbits. One of the snakes had a rabbit in its coils, and I believe that was the one that was doing the squealing. A couple more of the rabbits were out of the nest and although did not have their eyes open managed to run into the tall grass.

"Mr. Christy and his son took the two snakes out on the road and dispatched them. He then showed me the nest and reached into it and took the remaining rabbits out and held them in his hands. The little fellows made no effort to escape, neither did they squeal. I was somewhat worried for fear this would cause the mother rabbit to abandon them as I had heard that statement made several times. I figured the little ones that had gotten away from the nest could never find their way back because their eyes were closed.

"A day or two later I went past this place and I was very much surprised and pleased to find a full nest of rabbits, the missing ones having been returned I suppose by their mother. They seemed to be none the worse for their experience. I visited them again shortly before they were big enough to leave the nest, and then the last time I stopped I found only the empty nest, Mr. Christy told me about plowing out a nest of little rabbits, and when we found what he had done he dug a hole and placed the rabbits neatly in the hole he had dug. The mother rabbit raised them as if nothing had happened. I am writing this for two reasons. First to show what a little help at the right time can do towards producing more game; second, to show up the blacksnake as the killer I know him to be. Too many people seem to hold them as something sacred and not to be harmed. I kill him and his cousin the watersnake whenever I get the opportunity.

CROWS

« « « By Jack Miner

AS I look back over my thirty-five years of lecture career (I am now seventy-five) I doubt if any other individual has attended more conservation meetings than I have; from Florida to Alaska, from Newfoundland to Vancouver Island, as well as making seven trips in five years across Canada. In all this travel the one big thing I have noticed has been that the entire theme of the discussions and resolutions has been in regards to curtailing the shooting; namely, shorter open seasons, shorter shooting hours each day, smaller bag limits, and other restrictions, all of which have had their place.

I would not utter a word against such discussions but what I cannot understand is that there is all this talk about controlling man's killing desire, and practically no resolution or discussion in regards to controlling crows, vermin, and other natural enemies of our game birds when I honestly believe that the crow alone destroys more game than the hunters' gun. Living here in Canada where the ducks and other game birds nest I again say that I honestly believe the crow is far more responsible for keeping down the duck population by eating their eggs than the hunters' gun, to say nothing about the destruction caused by hawks, owls, weasels, and other natural enemies; and, as I said above, practically nothing is said or done about it in comparison to regulations controlling man's killing. I know one man in Western Canada who found 21 duck nests and 19 were destroyed by crows. Think of it!

When I mention control of game's natural enemies, one school of thought at once throws out the argument of "Balancing Nature." In reply to this I feel that the Creator put bird and animal life here for man's use and control, and that when he takes game birds for food such as ducks, geese, pheasants, quail, and such like then it is up to him to control or reduce their enemies to the same proportion; but man has not done this. Man's attention has been on shooting the birds that are good to eat and he has allowed their enemies to increase well out of proportion.

In the 19th Century the Passenger Pigeon was here in countless millions. They are now extinct. Then to hold out the "Balance of Nature" argument of some men let me say that crows and other enemies should have been decreased to the same extent but they were not. They have increased all out of proportion and are living on our other valuable bird life. When I say "valuable bird life" I mean bird life that the Creator meant for man's food, and valuable weed-seed and insect-destroying birds which in their way are valuable to man.

Man is Nature's first assistant or God's Vice-roy. Let us use the brains God has given us.



Box set for the taking of weasels.

The Passenger Pigeon

(Continued from Page 8)

given to this bird by Linnaeus was *Ectopistes migratorius*. It was about as large as our domestic pigeon, but longer, and with a longer and pointed tail. It was much larger than the mourning dove, the existing species of dove which it most nearly resembled. Its color was more bluish; the male had a much redder breast, while the female was much paler below than the female mourning dove.

The breeding places were in wooded uplands or swamps. The nest was built in either coniferous or deciduous trees, hardwoods preferred, especially the beech. It resembled a frail platform of sticks and twigs, and placed at heights from 9 to 50 feet above ground. Usually one egg was laid, but if food was plentiful, two eggs were often found. These eggs were elliptical (about 1.47 by 1.02 inches), and a pure, glossy white color. The incubation period was 14 days, with both sexes sitting on the eggs. Two or more broods were raised yearly, the birds migrating between broods. After choosing their mates their custom seemed to be of strict loyalty to each other and so devotedly attached that when death took one of them the other remained single.

The first settlers in this country found the passenger pigeon in infinite numbers. They provided a source of food for the Indians. Wherever roosts were established Indians always gathered in great numbers. Early historians speak of flocks of them so great that they broke down trees in the woods where they roosted. Early settlers in Virginia found the pigeons "beyond number or imagination." Their flights in migration extended over vast tracts of country. A continuous stream of pigeons, three miles wide, that took three days to pass a given point, was observed as late as 1860. Audubon and Alexander Wilson, the father of American ornithology, recorded instances of observing the flights of more than 2,000,000,000 pigeons in one flock. These birds traveled at a rate of a mile a minute and the light of noonday was often obscured as by an eclipse.

The migrations of these birds were not the regular, long-drawn-out movements that characterized the sensational flights of most birds. They were undertaken chiefly in search of food which con-

sisted of wild berries, nuts, insects, and grain. They were so swift and tireless in flight that they could pass from zone to zone in a day. They migrated *en masse*, that is, the birds of one great nesting rose into the air as one body, and the movement of these immense hosts formed the most wonderful and impressive spectacle in animated nature.

There were stirring sights when great herds of grazing animals thundered over the western plains, but the approach of the mighty armies of the air was appalling. The vast multitudes, rising strata upon strata, covered and darkened the sky, hiding the sun, while the roar of their myriad wings was likened to that of a hurricane. Thus they passed for hours or days, while the people in the territory over which the pigeons winged their way kept up a fusillade from every point of vantage. Where lower flights passed close to the hilltops, people were stationed with guns, poles, rocks and other weapons to knock down the swarming birds.

At night their roosting places were raided and thousands killed. For weeks after the passage of a flock the people in some sections fed on no other flesh than pigeons.

Their winter roosting places almost defy description, says Audubon. He rode through one on the banks of Green River in Kentucky for more than 40 miles, crossing it in different directions, and found its average width to be more than three miles. The ground was white with droppings like snow; trees two feet in diameter were broken off. When the birds came in at sundown, there was a great uproar and confusion, and a crackling of falling limbs not unlike a storm.

The nesting places sometimes were equal in size to the roosting places, frequently covering 100,000 to 150,000 acres. As many as 50 nests were observed in a single tree.

The squabs were in greater demand for food than the older birds and for this reason raids were made upon their nesting places and the young slaughtered by the millions. In some places hogs were fattened upon the butchered squabs and older birds left on the ground after a raid.

The most destructive implement was the net, to which birds were attracted by bait. Gunners also baited the birds with grain and dozens were frequently killed at a single shot.

A STUDY OF PENNSYLVANIA WOODCOCKS

(Continued from Page 23)

accurately understood. Specific knowledge regarding the use of singing grounds is the second objective.

Aldous (1938) inaugurated practical woodcock management by creating artificial singing grounds in an underpopulated section of the Maine woodcock range. Eleven openings were created, and five of these were used the first year. Fifty-seven occupied singing grounds were recorded in the Maine woodcock study in 1937, and at least 33 were used again in 1938. Whether or not a male returns to the same singing grounds year after year to perform his court-

ship activities, is important in the management of breeding areas and may be determined by the trapping and banding of adult males. The 14 birds banded by the writers in 1939 may answer this question in 1940.

Unsuspected life history facts may also be revealed if banded birds are available for study. Without definite knowledge of this bird's habits, practical management methods cannot be developed. Now that a woodcock trap has been perfected, perhaps many of the unknown habits and requirements of this bird will be learned.

The writers hope to retrap during the spring of 1940 some of the birds banded in 1939, as well as to band a large number of other breeding male woodcocks.

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Propagation and rearing pens built by the Sportsmen's Wildlife Association of Scranton. Last year the Association raised and released 196 out of 200 six-week old pheasants furnished by the Commission.

BABES IN THE WOODS

(Continued from Page 25)

Don't wear hunting socks with white tops. You can get them in red at the same price.

Those precautions are against having someone shoot at you. Now, on the other hand. Keep from shooting someone yourself by being sure of your target before you touch off the trigger. You can't recall a bullet. Make sure that it is at game that you shoot instead of a man. Don't trust to colors. That may be a man, after all, wearing that brown buckskin jacket. You won't feel any satisfaction in killing him just because it is partly his fault.

Never stand a gun up against a tree. It may fall down. Lay it flat and you won't hurt it.

Don't depend upon safeties on any type of firearm. You may have forgotten it or the safety may not be functioning properly.

Never mix guns and liquor. Each has its own place in the woods.

If you have to climb through a fence or over a wall, unload your gun. Pass it over or under the obstruction and lay it on the ground. Then go over or through the obstruction at a point a few feet away before you pick up and reload your gun.

Never carry loaded guns into camp. Some careless chap may assume that you were bright enough to unload your gun and shoot himself or someone else.

Did you ever carry the torn and bleeding body of a very good friend and hunting companion several miles through rough going in dense cover, in an effort to get what's left of him back to civilization?

They say it ain't a lotta fun.

Noah, The Conservationist

The tradition of a great flood was common among many ancient peoples. These traditions are strikingly similar to the Hebraic account as western civilization knows it from the Book of Genesis.

The conduct of Noah in this great crisis must be viewed, not only as an act of obedience to an arbitrary Divine command, but as an expression of a rational urge and a rational attitude which had grown and become a part of man's moral constitution since the days of the Garden of Eden, which was his initial experience as a free and morally responsible agent.

Viewed practically, the conduct of Noah is the outstanding act of unselfish conservation recorded in literature. That all creatures, both domestic and wild, should not perish from the earth became the dominant obsession of his life. He, therefore, gathered into his ark all creatures, both clean and unclean.

It is quite easy to understand why those species which had borne his burdens and supplied him with food and clothing should be the objects of his care and protection. It is not so easy to understand why his relatively primitive mind should cause him to devote so much labor and devotion to those forms which he could not regard as being of direct and immediate benefit to him. Some he undoubtedly regarded as his natural enemies; yet his scheme of conservation included them all. No more comprehensive view of conservation and wildlife values has been conceived since.



Photo courtesy Williamsport Grit

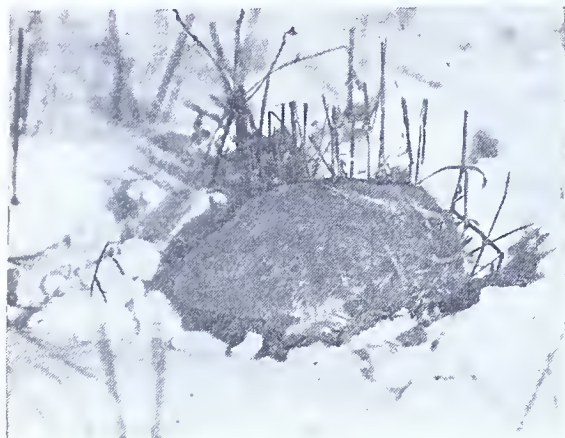
World Record Kodiak bear shot on Kodiak Island, Alaska, by Donald S. Hopkins, formerly of Lock Haven, Pa., now of Spokane, Wash. It weighed 1500 pounds and measured 11 feet, 8 inches across the front feet, 11 feet from nose to tail, and 21 inches from one ear tip to the other. Mr. Hopkins brought down the animal with one shot, using a new type bullet with which he was experimenting. He hunts in Alaska nearly every year. On the trip on which he killed this big Kodiak, his wife shot a smaller bear. Photo was taken at the Beek Taxidermy, Duboisstown, Pa. In the picture is Mr. I. A. Shaffer, Jr., of Lock Haven.



Photo by John Litimer

Eight and ten-point weighing respectively 186 pounds and 172 pounds. The eight-point was killed by Walter McGraw and the ten-point by his brother Hugh, both of Tidouete.

SEASON'S END



By SAMUEL J. DAVIS

The hunting season is over,
The storms of winter are nigh,
But what will the starving ringneck do
Left out in the fields to die?

The firearms shine like polished glass
In their places on the rack,
But a rabbit leaves a brier patch
And his trail does not come back.

The hounds are housed so warmly,
Their beds are snug and dry,
But the forest creatures take what comes
When the snow is swirling by.

Some cornstalks heaped will make a shelter
For birds will wander there,
A little grain will save a life
On a winter's bill of fare.

Oh! hunter heed to this advice
And take it to your heart,
Remember that you can't have game
Unless you do your part.

FISHING POPULAR SPORT

Fresh water fishing in the United States moved up another notch in its standing in the big league of national sports last year, when an increase of more than 500,000 in the number of anglers paying State license fees brought a total of 7,436,177 licenses issued during the year, it is revealed in tabulations of the Bureau of Fisheries submitted to Secretary of the Interior Harold L. Ickes.

Pointing out that the statistics do not include the thousands of anglers who are permitted to fish without State licenses along the seacoasts and in the oceans, Bureau experts estimated that if the salt water fishermen were added to the census of fresh water rod and reel enthusiasts, more than 12,000,000 individuals participated in the aquatic sport in 1938.

Reports from State officials indicate that of the total number of licenses issued, 5,453,426 were for fishing alone, while 1,982,751 licenses included fishing, hunting and trapping privileges. More than 89,000 anglers' licenses were issued to women and children, and 275,552 short-term licenses were sold to tourists in sports centers of the Nation.

Michigan led all the 48 States in the issuance of resident and nonresident fishing

licenses, the tabulations show, its total of 807,930 including 110,719 trout fishing permits. Ohio ranks second, with 631,126 licenses, and New York third, with 542,346 licenses issued.

Standing of the other States in the Big Ten League of sports fishing is shown in the tabulations as follows:

Minnesota, 538,668 licenses; Indiana, 447,560; Pennsylvania, 401,710; Illinois, 385,866; California, 374,161; Wisconsin, 180,612, and Oklahoma, 118,826.

In New England, Maine's score of 117,290 barely nosed out the Massachusetts total of 116,551 licenses, which included 17,879 for women and children.

Altogether, 443,956 licenses were issued in the New England sector, the tabulation crediting Vermont with 85,793; New Hampshire, 75,025; Connecticut, 36,540, and Rhode Island, 12,757.

In the South, where 307,228 licenses were issued, Tennessee ranked first with 101,272; North Carolina, second, with 49,793, and Virginia, third, with 40,991.

The score in other Southern States shows that Florida issued 28,285 licenses, Arkansas, 27,702, Georgia, 23,233, Louisiana, 19,227, South Carolina, 11,024, and Mississippi, 5,701.

Summing up the talley sheet, it is revealed that issuance of fishing licenses during 1938 resulted in the collection of \$10,220,787.73 in fees which went to the States for the enforcement of fish laws, educational work, administration, and the raising of fish for restocking the sports streams.

Looking back over the records of national sports fishing for the past five years, Bureau experts found an increase of more than 2,500,000 in the number of anglers during the period from 1933 to 1938.

BANDED BATS

This past November, I overheard conversation concerning a banded bat. After some inquiry I was finally able to locate the remains of the animal, together with the tag, in the possession of the Melvin Mattern family near Benfer, Snyder County. The bat had been crushed underfoot by a member of the family on either the first or second Sunday in June 1939. Shortly thereafter a keen-sighted Mattern youngster saw that the bat bore a tag in one of the ears. It was impossible to identify the creature when I arrived as the remains were decomposed and powdery. The number of the band (665) was sent to the United State Biological Survey in Washington and was there identified as one having been attached to a Little Brown Bat (*Myotis lucifugus lucifugus*) by Chas. E. Mohr at Woodwardo Cave, (Centre County) on February 12, 1939. The distance from Woodward Cave to Benfer is in a straight line about 10 miles.

The Biological Survey, The Game Commission, and the Pennsylvania State College, as well as many private cooperators are banding many kinds of birds and mammals in the State. The animals marked with some form of a ring or tag include deer, rabbits, bears, muskrats, raccoons, squirrels, migratory waterfowl, songbirds, crows, hawks, owls, pheasants, quail, Hungarian partridge, seagulls, mice, and bats. Through this work, the agencies interested in all forms of wild-

life, are slowly uncovering many facts, such as migration routes, population trends, longevity, growth rates, distribution, movements other than migration, breeding habits, food habits, and habitats.

Any person knowing about the recovery of bands or tags should get in touch with the State Game Commission or Biological Survey, for in doing so he will be performing a valuable service toward a more complete understanding of animals and their ways.—Douglas E. Wade, Beavertown, Pa.

A YEAR OF PROGRESS

(Continued from Page 27)

vania Bird Life was printed and widely distributed.

The Commission's monthly magazine, "Pennsylvania Game News", continued to increase in circulation there being 34,000 subscribers as of January 1, 1940.

An extensive state-wide historical project on game conservation within the Commonwealth was established with the cooperation of the historical division of the W.P.A.

A great many three dimensional dioramas portraying safety-first and the use of the flushing bar to save nesting game birds were constructed for the Commission by the W.P.A. They were used widely at sportsmen-farmer meetings and in schools. Also, maps, signs, display cases and panels, and other educational material were made by the W.P.A.

Over five hundred motion picture trailers in sound showing how not to hunt were prepared and distributed to the theatres of the state in an effort to make hunters more accident-minded.

The Commission entered into a joint educational program with the Philadelphia Academy of Sciences and the Carnegie Museum in order that the children who visit those institutions might learn more about wildlife conservation.

Hundreds of thousands of people viewed the Commission's three major exhibits at the State Farm Show, the Philadelphia Sportsmen's and Motor Boat Show, and the Allegheny County Fair.

A permanent exhibit was contributed to a museum built on State Forest Lands near Caledonia under the auspices of the National Youth Administration.



Rabbits scarce! Not according to John, David, and Grover, Jr. Bell of Mahaffey and their dog "Blackie".



ITS EGGS ARE LAID LATE IN FEBRUARY
OR IN MARCH-USUALLY IN AN OLD
HAWKS OR CROWS NEST



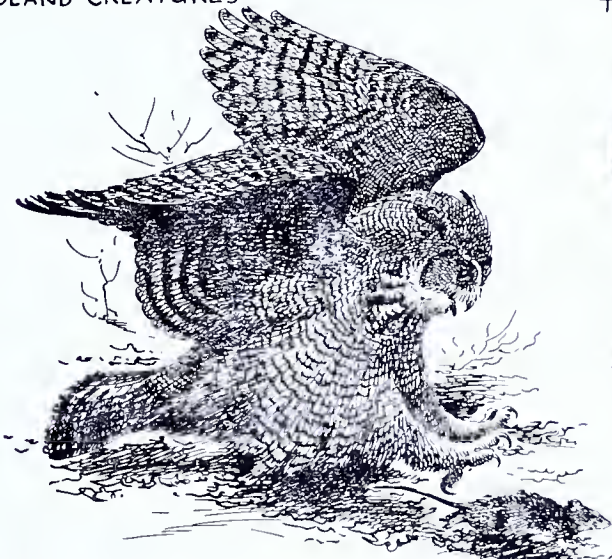
THE YOUNG REMAIN IN THE
NEST FOR MORE THAN A
MONTH



AT NIGHT ITS DEEP-
VOICED HOOT STRIKES
TERROR INTO THE
WOODLAND CREATURES



BIRDS AND THE SMALLER MAMMALS
ARE QUICKLY KILLED IN ITS POWERFUL
TALONS



ON SILENT WINGS IT GLIDES THROUGH THE
WOODS CAPTURING ITS VICTIMS BY SURPRISE



SOMETIMES IT INVADDES THE
BARNYARD, TAKING TOLL OF
THE POULTRY

E.L. POOLE

"WANT GOOD HUNTING?"



"HELP FEED THE GAME"

PENNSYLVANIA GAME NEWS



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WILDLIFE AND THE A. A. A.
PROGRAM

Opportunity KNOCKS BUT ONCE

NEVER has there been a time in the Commonwealth's history when the sportsmen have had such a splendid opportunity to help improve game conditions and at the same time make friends with the farmer. If they do not take advantage of that opportunity they will have nobody to blame but themselves if future hunting conditions are not as good as they expect. The ammunition with which to work is plentiful, and certainly there is no lack of organizations or individuals who can use it effectively if they really want to.

The Game Commission has recently developed several farm-game programs which have met with much favor, but a greater and more unified army is needed on the firing line in order successfully to attain the desired objectives. The most far-reaching of these undertakings is the new Special Wildlife Refuge Program, which places the sponsorship for acquiring more open hunting territory, and improving game conditions on it, on the sportsmen in each community. It's up to them to interest and enlist as many neighboring landowners in their cause as possible. This requires a little time and effort, but the old adage "nothing ventured nothing gained" applies here just as much as anywhere else.

Some clubs have already achieved their immediate goal, for 30 projects containing over 17,000 acres were established as soon as the program was inaugurated last fall, and dozens of others have projects in the making. This plan has been made doubly attractive as a result of the 1940 Agriculture Adjustment Administration's program which includes payments to farmers for wildlife management practices. This program, which is fully outlined on page 26 of this issue, provides the opportunity for the sportsman and the incentive for the landowner. Together they should be able to accomplish a great deal. If they miss this opportunity, it may never come again.

Pennsylvania's sportsmen have never had a better chance to help themselves by helping the landowners, and if each of the more than 1000 active organizations within the Commonwealth wages a strenuous campaign for Special Wildlife Refuge Projects, and at the same time encourages and assists farmers to carry on the wildlife management practices for which the A. A. A. will pay, they are bound to better hunting conditions, and establish better feeling between themselves and the farmers, than years of propaganda and publicity could ever hope to establish.

If reserves are necessary in order to insure the success of this program, it is always possible to secure the help of such groups as the 4-H Clubs, Future Farmers of America, and the Boy Scouts. The time to start the drive is NOW. Everyone should join forces in going "over the top".

And while talking about game management practices with the farmer, never lose an opportunity to discourage the practice of spring burning or otherwise destroying badly needed cover and food for bobwhites, ringnecks, and other desirable wildlife on the farm.



Now are the winds about us in their glee,
Tossing the slender tree;
Whirling the sands about his furious car,
March cometh from afar.

—William Gilmore Simms

The Pennsylvania Game Food Plot Mixture

By James N. Morton



Over 400 tons were produced in 1939

AS everyone familiar with wildlife knows, a food supply is one of the most essential requirements to the maintenance of a crop of game on an area. Other conditions being approximately equal, game will increase up to the amount of its available food and no further. This food supply is especially needed during the fall and winter months when much of the material on which wildlife depends for its welfare has been harvested, or because of weather conditions has disappeared.

Food is particularly important in the case of birds. The body temperature of birds ranges from 2 to 14 degrees Fahrenheit higher than that of mammals. In order to maintain this high body temperature necessary for life, large quantities of food must be consumed. When food supplies run low, birds have no reserve to draw upon except the small amount stored in the fatty tissues of their own bodies. If the amount of food burned up exceeds the amount of food eaten, in a very short time the small reserve in the body is used up and the birds become weak and emaciated. In this condition they become a prey to predators and to severe weather.

One of the simplest ways to assist in providing a winter food supply is for sportsmen and other interested parties to arrange with landowners to leave a few rows of unhusked corn or other grains near cover. However, in many cases there is no suitable grain crop in sections where a food plot is needed. In such cases it is essential to provide a special game food plot to insure the necessary food supply.

The Game Commission, for several years, has been planting plots to game food on lands under its control. Many sportsmen's

organizations and interested individuals have planted many such plots on other lands. A great many of these interested parties have from time to time requested that the Game Commission recommend to them grain crops which can be planted with the minimum amount of labor and care after planting, as well as a source of supply of such grain.

In response to these requests, and with the assistance of agronomists at Pennsylvania State College, fifteen different mixtures were planted in 1937 on ten different tracts of State Game Lands for the purpose of developing a mixture of seeds for planting for food for game and song and insectivorous birds.

From the experience gained in these experimental plantings, a mixture was recommended for planting in 1938, especially in the small game sections of the State. The mixture used the first year contained eleven different grains. The purpose was to secure in the food plots some plants which mature their seeds early, and some which held the seeds until late in winter which would insure a food supply from August until late winter. Some heavy stemmed plants were used in order that they would assist in holding up the weaker stemmed ones.

To make it easier to plant, only such material as could be sown broadcast was used, and those which could be expected to do reasonably well without cultivation. In planting, the material is broadcast on a previously prepared seed bed at the rate of 12 to 15 pounds per acre and raked or harrowed into the ground at about the same time as corn is planted.

The Commission likewise took into consideration the matter of making arrangements so that the material could be easily secured

by those wishing to plant it. Arrangements were therefore made to secure bids from several seed houses and to have a specified amount made up by the low bidder. Information as to the source was then made available and those wishing to secure the mixture ordered it direct from the seed company. As a result of the interest which was created, at least one large seed house advertised the game food plot mixture in a special circular. Requests for information were likewise received from many persons in other States.

During the year 1938, four tons of the mixture were planted by 26 different organizations, and some was planted on the State Game Lands and Game Refuges. Observations were made on a number of the plots and, as a result of these studies, certain changes were made in it for the following year. In 1939 the mixture was again made up, and 7½ tons were planted by more than 100 organizations and individuals. On account of the extremely dry weather in many sections of the State, some plots did not do as well as others. A normal yield, however, from this 7½ tons could be expected to produce a total of 400 tons of food for wildlife.

The mixture has been prepared for planting during the spring of 1940. A few additional changes have been made based on past experience. Following the custom in the past, bids were secured and the mixture will be made this year by the Philadelphia Seed Company, Arch and Front Streets, Philadelphia. The price will be 6¼c per pound delivered to any place in Pennsylvania in lots of 10 pounds or more. Orders should be placed direct with the seed company.

All plots should be planted near good natural cover such as a woodlot, thicket, brushy fence row or a stream bank where cover has been left stand. **Plots of ¼ to ½ acre are usually large enough**, but sufficient plots should be provided to take care of the wildlife in each section. As was mentioned previously, the mixture should be planted at the rate of 12 to 15 pounds per acre. Care should be exercised to keep the rate of planting down to this amount. A heavier seeding will not result in as good a yield for the reason that the stems will be crowded.

It has been found in the past that many landowners are willing to put in food plots in cases where the seed mixture is furnished to them. In many cases the food plot is of value to the landowner for the reason that they attract a large number of insect-eating birds. Such birds of course greatly assist landowners in their battle against insect pests.

The mixture known as "Pennsylvania Game Food Plot Mixture", as made up for planting in 1940, will contain the following grains in

(Continued on Page 27)

NO HUNTING WITHOUT PERMISSION

Park Your Car at Building
and Ask Permission

These Notices Furnished Free to Farmers by Southern Chester County Chapter, Isaac Walton League of America.

WHILE visiting the New York World's Fair this past summer it was my privilege to see the electrified farm of tomorrow, television of tomorrow, the wonders in science and medicine that will be available to the world of tomorrow, the wonderful things that will be made from glass tomorrow, the radio of tomorrow, the house of tomorrow, in fact I saw tomorrow's town, consisting of about twenty houses constructed of various types of material from glass to plywood. I saw some machinery of tomorrow, the railroads of tomorrow, the New York of tomorrow, and then in the Trylon and Perisphere and various exhibits a panorama in miniature of the world of tomorrow. It is really wonderful to see the progress that has been made in the construction of houses and of all of these various types of machinery and equipment that are being used in the world today. This is truly a great age. As we think of all these improvements, developments and future possibilities, and being interested in the perpetuation of our sport of hunting, we can not help but think about the hunters of tomorrow and their happy hunting grounds, or in other words, the type of hunter we will have tomorrow and the places where he will hunt.

As employees of the Game Commission and as sportsmen we should give consideration to the improvement of public relations, because after all good public relations must be maintained if we hope to be successful in our game program. Regardless of all the developments we may make in the line of providing food and cover for game, in raising and restocking game, controlling predators, in enforcing the game laws, and engaging in many other activities coming under the jurisdiction of the Game Commission, there are some things we can not control. Some species of game apparently have what we call game cycles, and in some years they reach the peak of this cycle and then later hit the low spot of the cycle. There doesn't seem to be anything we can do to control this matter. In spite of all the beneficial things we may do for wildlife, we still are unable to control the weather, and Providence plays a great part in providing us with an abundance of game in certain years, while in other seasons because of poor weather conditions we have a small amount of game. As the old saying goes, "The weather is something about which we talk a great deal, but about which nobody does anything."

There is another thing that enters into the hunting picture in a big way, and that is the attitude of the landowner towards hunting and towards permitting hunters to come upon his land. **We can do something** about this side of the picture. Our dealings with the farmer come under the head of Public Relations.

Game hunters should take a lesson from the fox hunters in a number of our counties where fox hunting is considered a real sport. These fox hunters invite all the nearby farmers to a big fox hunt at least once a year. They serve refreshments, have a great social time, and then release a fox and give every one a chance to join in the chase. The good-will of the farmers is sought very earnestly. The fox hunter seeks to establish good public relations. Why can't the game hunters see the importance and significance of making friends with the farmers? He can surely see that instead of doing as the fox hunter does, trespassing,

The Hunters and their Happy

by
Wilbur M. Cramer

cussing the farmer, ignoring his wishes, destroying his property, etc., can not help but mean that the farmer will soon taboo hunting on his land.

If all employees of the Game Commission and all sportsmen were to read Dale Carnegie's book entitled "How to Win Friends and Influence People", our problem of public relations would be much easier to solve. We would then see that it is not a question of what we want in our hunting experiences, but it is a question of what the landowner or farmer wants. When we learn to lay aside our own wants and desires and consider the things in which the farmer is interested, we will be on the road towards establishing much better relations with the farmer in providing the happy hunting grounds of tomorrow.

After all, what does the farmer want? First of all, it seems to me, he seeks the courtesy of acknowledging him as the owner or the person in charge of the land upon which we want to hunt, and he expects the courtesy of our asking him for permission to hunt on that land. In the second place, the farmer desires protection around his buildings, he desires safety for himself and the members of his family while going about their regular routine duties at the farm house or at the barn. In the third place, he wants protection while working in his fields. He does not want to be continually on the alert while husking corn or doing some other work, and be in constant fear of being shot while attending to that work. In the fourth place, he wants consideration for the safety and protection of his livestock, poultry, and other property. In the fifth place, he does not want too many hunters and too many dogs on his property at one time. He does not want his farm to appear like a battlefield in a war. He wants to feel that some of the game on his land has some chance to escape and survive for next year's breeding stock. All of these wants or desires of the farmer may, therefore, be considered as entirely reasonable. They are absolutely fair, and surely no hunter could object to the farmer wanting these several things. Surely the hunters of tomorrow will be men who will respect the rights of the farmer and his wants, and see to it



Make friends with the farmer

of Tomorrow Hunting Ground

Cooperation with the Landowner
is the only solution to
Good Hunting

that the wishes of the farmers along these several lines are respected.

This past hunting season convinces us that many Sportsmen's Associations are looking further into the future than "the ends of their noses", and have sensed the importance of cooperating as fully as possible with the farmer. There are a few Sportsmen's Associations in a number of counties that have had special signs prepared showing that they wish to do everything possible to cooperate with the farmer. These signs were noticed in Berks, Chester, and some other counties. It is a splendid thing, and very encouraging, to see signs containing the wording, "Obtain Permission Before Hunting, Cooperate with the Farmer", and signed by some Sportsmen's Organization. The hunters of tomorrow will secure more of these signs and they will be posted throughout other sections of our State.

From my own experience in the field this past hunting season, it was very evident that hunters are more willing to stop and discuss hunting problems with Game Protectors than ever before in our history. This is a good sign. It indicates that hunters generally are taking more interest in their own sport than they formerly did. It also indicates that hunters are becoming more friendly with their Game Protectors. So often in the past a hunter would start walking in the other direction from an officer because he either did not want his license inspected, his game bag checked, had a guilty conscience, or else just did not wish to talk with the Game Protector or be bothered while hunting. Much good can not help but result from this changed attitude of the hunter and his present desire to converse with the Game Protector and tell the officer about hunting conditions and his problems generally. This is one way we have of learning about our mistakes and what to do to correct them. The hunters of tomorrow will take a still greater interest in hunting conditions and will desire to continue this close cooperation with the Game Protector on a big scale.

The hunters of tomorrow will make more of a study of hunting conditions and game conditions when afield and will report either

OBTAIN PERMISSION BEFORE HUNTING

Cooperate with the Farmer

Signs Furnished By

**SOUTHERN CHESTER COUNTY CHAPTER
IZAACK WALTON LEAGUE OF AMERICA**

directly to their Game Protector or to the Game Commission the unusual things noticed and will make suggestions for improvement, rather than criticize everybody and everything connected with the Game Commission and hunting in Pennsylvania, as some now do. It takes a long time for a construction gang to construct a large building, but a wrecking crew can tear it down very quickly.

Many hundreds of acres of lands are today posted against hunting because of the depredations of a few hunters. The good hunters of tomorrow will unite to outlaw this sort of a condition and will endeavor to eliminate illegal hunting by their fellow hunters just as they would soon call a halt to cheating upon the part of anyone playing cards with them or cheating them in some business deal.

No modern Utopia can be planned in which all hunters will secure an equal and large amount of game during a season, any more than the day will ever arrive when all persons in our country will possess an equal amount of money or other forms of wealth. Some folks are just naturally better hunters and better shots than others, just as some folks make money more readily than others, but it is the person who secures his wealth dishonestly who is looked upon with disfavor and is subject to prosecution. This person robs others, just as the person who kills game out of season or who kills more than the daily bag limit robs the real hunter of his sport. This man is a real game law violator and is subject to prosecution. The hunter of tomorrow will realize that the man who kills game out of season or more than his daily bag limit is robbing the legitimate hunter of his sport and he will realize that this is **after all** some of his own business and **he will do something about it besides complain.**

The hunters of tomorrow can not expect less hunters than there are today. In fact, there will likely be more hunters, but they will advocate a system of issuing hunter's licenses that will eliminate the dangerous and unfit hunter and the non-resident who still for one reason or another is able to secure a resident license. They will expect still further education of our hunters, with the result that depredations and accidents will be reduced to a minimum.

The hunter of tomorrow will realize that the greed displayed by some few hunters of today must be laid aside if we hope to have game to shoot tomorrow. This same greed is also responsible for a great many of our hunting accidents today. Many hunters are so intent upon shooting something that they fail to see other hunters very close to them. On the opening day of this past small game season a hunter not very far away was ready to shoot at a rabbit that ran between us, but I let out such a "yell" that he put up his gun and didn't shoot. He claimed he never saw me nearby.

The hunters of tomorrow will realize that they "can not eat their cake and keep it too." In order to have good hunting year after year it will be necessary for each hunter to make some concessions—some sacrifices; to lay aside his personal desires, his greed, if he happens to be one of the greedy ones, and learn to realize that the seasons can not be too long nor the bag limit too large

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Cooperation wins for this happy nimrod

I TRAP NO MORE WEASELS

By JOSEPH W. LIPPINCOTT



He looks innocent, this trapped male in full winter coat. Farther north weasels turn white when winter comes.

ON January 21st, the second day after a two inch fall of snow, when all of the wild animals which do not hibernate had been on the move, I took up the trail of a weasel where it circled the house. After two miles through shrubbery, fence rows, woods and stream beds, he was still going places, and going strong, for the jumps averaged 44 inches, at times increased to 52 inches, and once or twice hit 54½ inches.

He had taken no notice of rabbit sign which was almost everywhere, or of gray squirrel tracks or of roosting pheasants. He had slackened his feverish speed only at a pile of corn shocks where he chased out a rat, an evergreen tree under whose dragging limbs he stampeded two meadow mice, and at two other mouse holes which were too frozen for even his slim body to enter.

Why this terrific globetrotting? He might easily have run down any of the cottontails in spite of the fact that a rabbit, for a very short distance, can cover eight feet at a hop. Since a gray squirrel can jump only about 52 inches, and a rat 27 inches, it is evident that for his size the 12 to 16 inch weasel is the fastest long distance champion in the woods, as well as the fiercest, and that he can catch any of the other small creatures. He is equipped to hunt on the ground, under the ground, in the water, and up the trees. In fact, he can do everything except fly. So when he goes traveling and passes up rabbits, squirrels, pheasants and such noble game, it is reasonable to presume that he is searching for something to eat which he prefers to these. Working on this theory, I give the following regarding his kills, and in answer to the question: Is the work of this fiery mite, whose thirst for blood is often increased by stomach parasites, good or bad for mankind? I want to testify that, judging by the farming section around Philadelphia, it certainly looks good, in fact very good.

The creature appears to prefer mice to anything else, rats second, with ground hackees (chipmunks) and red squirrels third. Follow in the snow his odd trail which shows two small foot marks almost side by side and close together, with amazing distance between the tracks. It will lead to most of the likely mouse, rat and hackee harboring places in the countryside, and I doubt if anyone will find where a bird or a rabbit has been even disturbed. You may not often actually see remains of dead rodents, for these are usually killed and eaten in burrows and other hiding places where the snake-like pursuer follows them regardless of cramped quarters.

I can tell by the number of rats around the out buildings and hen houses whether a weasel is about, and better authorities than I have testified regarding the animal's prodigious effect on the field mice. The odd thing about it is that as a rule only one weasel at a time is found around my farm, except at breeding time in the

spring; then the very solicitous mothers lead their four or six young everywhere as soon as these can leave the nest which is located under a stone pile or a stump.

It is in the spring and early summer that I have had to record chicken and duck losses. At such times, I squalled about it plenty, but it occurred only on three occasions in forty some years. In these cases the destructive weasels were killed and found to be females that were nursing young. At such times they probably will catch almost everything they run across, as will a skunk, a 'possum or a coon. Indeed, on one spring day just before noon, I heard a great commotion, and must say that I saw a weasel with a hold on the head of a flicker which was putting up such a struggle in the grass that all the neighborhood robins and red-winged black-birds had come to screech and circle. The weasel let go the flicker only when I threw myself on the fighters, and the bird was able to fly away.

Regarding the rats and mice, I have learned that the surest way to trap a weasel is to set a steel trap at a rat hole behind the barn. The rodents may be too wise to get caught, but sooner or later a weasel will come along hunting something to eat, and in his excitement over rats, blunder in. On two occasions, I have trapped weasels in the woods when they were carrying mice which they gripped even in death. At another time, our house dog treed a weasel which ran from limb to limb still holding a mouse in its jaws.

Only last summer, on a very hot afternoon, meadow mice began running across the closely mowed grass plot beside the house. Though taken by surprise, I managed to capture two of them, and then found that a small weasel was busy flushing these out of the nearby weeds. Later, in driving to the station one morning, I saw three meadow mice suddenly scurry across the concrete road with a brown streak in furious pursuit. The weasel succeeded in seizing one of them directly in front of the car and ran back with it across the road.

Red squirrels and ground hackees appear around our flower beds every summer, but vanish as soon as a wandering weasel finds out about them. A friend of mine once had the luck to see a weasel in the act of chasing a red squirrel at top speed from tree to tree, the nimble squirrel finally being cornered at the tip of a limb and forced to jump to the ground where it was caught as soon as it

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Weasel tracks.

Photos by the Author.

Federal Aid Fur Programs in Other States

By Douglas E. Wade

(Editor's Note: The information contained herein is abstracted primarily from mimeographed releases of the Bureau of Biological Survey, Division of Federal Aid in Wildlife Restoration. The Pennsylvania Game Commission fur research program was presented in the December, 1939, issue of the GAME NEWS.)

Wildlife administrators, sportsmen, trappers, farmers, and nature enthusiasts should set down the date, September 2, 1937, as a red letter day in the annals of wildlife conservation. For it was on that day that the President approved the Federal Aid in Wildlife Restoration Act.

Briefly, this Act released a considerable portion of the funds derived through the 10 percent excise tax on sporting arms and ammunition for use by the States in furthering studies on approved wildlife projects.

In this article we shall skip about the country and see what work is in progress on fur-bearing mammals. To do this, we feel, is justifiable because cooperation, or exchange of findings between States, is an important part of the Federal Aid program. Trappers, fur-dealers, as well as all interested persons, should be stimulated by the scope of the fur work now under way and whenever possible should give the project leaders wholehearted support.

Colorado: Determining the annual crop of furs in the State, distribution and abundance, and obtaining information for protection and management. Dealers will report the number of furs purchased, post office from which shipped, and prices paid. This State is also carrying on an extensive beaver program to systematically transplant live trapped beavers to streams not now containing colonies. The objectives are the retention of water in high mountain basins, the catching of silt otherwise damaging to irrigation projects, the storing of reserve waters in the beaver ponds, the increase of aquatic life, the improvement of waterfowl nesting areas, and in many cases, the providing of additional livestock and wildlife watering facilities. The beaver dams will also contribute materially to the alleviation of flood and erosion conditions. It is hoped, too, that the plan of removing nuisance beavers to streams where they will do no damage to agriculture will again make it possible to realize a considerable income from the fur. [It is well to note here that Pennsylvania has been following a plan of transplanting nuisance beavers for a number of years.] Preliminary estimates indicate that there is sufficient suitable range in the higher aspen belts of Colorado to support 100,000 beavers, or more than double the number now found in the State.

Oregon, Arizona, Utah, and Idaho are conducting beaver studies very similar to Colorado's, and expect to accomplish many of the above mentioned objectives. Already these



Pennsylvania's fur crop is worth over a million dollars annually. Farmer lads trap and sell many muskrats.

States have moved many beavers and the program is an actuality and no longer a paper plan. It is significant that these western States are pooling their findings and avoiding unnecessary duplication of fact-finding. In view of all that is expected, the beaver once more assumes an important role in shaping this country's destiny.

Michigan and Illinois: Out in the Middle West these two States are taking the lead in Federal Aid Projects. Both States have made fine progress in fur studies. Illinois has underway a survey of fur animal resources very similar to that in progress in Pennsylvania. Through an economic survey made in five Illinois counties, it was found that the average fur income per square mile during 1938-1939 ranged from \$21 in one county to a high of \$67 in another county. The survey also revealed that the raccoon is being rapidly depleted over most of the State; the opossum, due to low fur prices and warm winters during the last few years, has increased to the point where it is considered a nuisance; red and gray foxes are steadily increasing in some localities. Skunks are protected where orchards are numerous. [Pennsylvania farmers take notice!], elsewhere people, including trappers, are indifferent to the species. Muskrats and minks, in spite of low fur prices and plentiful rainfall, appear to be decreasing gradually.

Illinois is also striving to work out techniques for managing fur-bearers, indigenous to the region and where they do not conflict seriously with existing farm practices.

The Pennsylvania Game Commission is keeping in close touch with all these developments and the latest word from Illinois discloses that the decline of the raccoon is due, in part, to the destruction of den trees and wooded areas, the hunting of free-ranging dogs, the training of dogs during the sum-

mer months, the burning of woods, and the excessive pasturing of woodland areas. Specialists in Illinois believe that the raccoon can be helped by (1) regulation of hunting, (2) sparing of hollow trees, and, (3) keeping cattle out of woodlands. "These measures," according to the November issue of the Illinois Natural History Survey **Wildlife Research News**, "are either good forestry practice or do not interfere with good forestry practice."

The **Wildlife Research News** further states, "Experience with the use of wood-duck nesting boxes by coons is so promising that the Illinois Natural History Survey has initiated investigations in use of boxes made especially for coons. It is hoped that landowners may bring back coons on their own farms by development of such boxes, but such boxes cannot entirely replace hollow trees which are cut or burned down by the selfish hunter who lacks good will toward the public."

Over in Michigan, the "Federal Aid Boys" have been finding some "real dope" on the raccoon. They have live trapped and examined before releasing again some 100 raccoons. It has been noted that the breeding takes place primarily in February and that the majority of young are not born later than the middle of May. After another year or two of this type of study, we should all be in a better position to manage raccoons in the wild.

Missouri: Here is a State rapidly coming to the forefront in wildlife conservation. Much of Missouri is similar to Pennsylvania in climate, plants, animals, and wildlife problems. The main Federal Aid project was to map the past and present status of the principal wildlife species and to determine the potentialities of expanding existing ranges. The workers on this project have made fine

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THE "LOW DOWN" ON

By S. A. BRESSLER



Carloads of ammunition.

NOW that the gunning season is over, and Spring and Summer shooting matches are coming in for discussion, a little shotgun information may be of some value to beginners.

The first thing necessary is a gun and ammunition to fit the bore.

What kind of a gun?

Any kind you like. Buy the one you like the best. They are all good and they will shoot exactly where held. If you intend to shoot heavy loads buy an expensive gun, well made for the purpose.

What bore?

Any bore you like, or if you like variety buy 'em all. I have lots of fun with a 12 gauge bore.

How long ought the barrel be?

You pays your money and takes your choice. Many experts claim 32 inches is the best length.

In theory a 32 inch barrel will shoot a little farther than a shorter barrel. If a 32 inch barrel and a 26 inch barrel of exactly the same make are fastened in a vise and blocked in exactly the same way and fired with exactly the same kind of modern ammunition the result will be about the same for all practical purposes. A 32 inch barrel has a longer sight radius and of course, one can sight better over a long radius than over a short one, which is an advantage. The short barrel handles quicker with less weight, which is also an advantage. Try them all in order to find out which one you like the best.

Now that you have the gun and the ammunition, the next thing to do is to shoot.

The individual who shoots only the first day of the season, and then stands the gun away until next year, needs to be cautioned only to be careful. He must learn how to handle his gun carefully, and that is all. His shooting will be mere luck.

If he wants to develop into an expert like Fred Coleman, he will have to shoot carloads of ammunition, and give the matter much study and careful attention.

If he wants to shoot for sport then he will have to be able to give at least one day a week to shooting problems. He will want

a good dog or two and he will want to make a hobby of it. This kind of a man will become a fairly good shot and will have lots of pleasure with his hobby. But there are certain fundamentals which he must know and which I will here set forth for his benefit.

Starting early in life is a big help to anyone who likes to shoot. My brother took me along fishing when I was 4 years old and my father taught me how to shoot with a Mexican War musket when I was 8 years old. I had an early start and I like it better now than ever, and I am 64 years old.

A small, light weight individual with thin muscles and small bones cannot handle a large, heavy gun with much success. To have any fun with your gun it must fit your body. It requires a big, strong man to handle a big heavy gun successfully.



My father taught me.

The small bore guns have been coming in rapidly during the last few years. I have seen some wonderful shooting done with the 410, also with the 16 and 20 gauge. These guns are light in weight and handle very easily and quickly, and in addition the ammunition is somewhat cheaper. More shots may be had for less money. However, the 12 gauge is still the standard shotgun at the present time.

Your gun ought to fit YOU!

While not many guns do fit the owners, they ought to fit in order to get the most out of them in the way of sport and satisfaction. By "fit" is meant the stock ought to fit the length of your arm. If the stock is too long or too short the shooting will not be so good. Likewise the stock ought to have the proper drop at the heel and comb so as to fit your neck. An individual with a long neck needs more drop at the heel and comb than an individual with a short neck. Also the gun ought to balance well with your body.

All the gun factories have fitting departments and will fit their guns to your order,

or to your measure. It is best to let the factory fit you because they take a great interest in their guns and are very careful to fit their customers correctly, while the sporting goods stores and the local gunsmiths do not always have this personal interest, and in addition not many of them know how to fit a gun. They may pretend to know and will go through the motions and probably even make a charge for their very poor job of fitting, but after some little time you will find their "fit" was a fraud.

Many of the sporting goods dealers and local gunsmiths do not go hunting or shooting very often. They are merchants and mechanics, not sports. This does not apply to all of them, however. One of the best gunsmiths I know is also one of the best hunters. The point I desire to make is that you must be sure that the man who fits you knows his stuff and knows exactly how to fit your gun to your body.

Good eyesight and quick nerves are important. The nerves must coordinate quickly with the brain, and therefore if the eyes, nerves and muscles do not or cannot coordinate it is just as well not to bother with shooting. You must have good eyes and good nerves.

Shooting with one eye shut or with both eyes open makes no difference at all. One method is just as good as the other. You will soon find out which method suits you the best, just as you have found out how to hold your pen to write your best hand.

Snap shooting, i. e. point the gun and pull the trigger, like pointing your finger at the target, is a method which comes naturally to some but must be learned by others. To hit consistently with this method requires lots of shooting practice. You will have to shoot truck loads of ammunition in order to become master of this method and remain proficient in it.

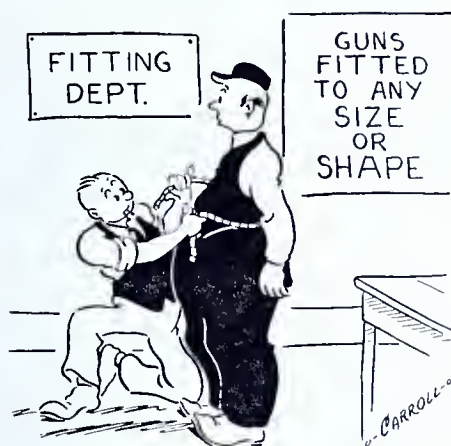
But if you can afford to buy the shells, go ahead and try it. You will have lots of fun and will learn a lot. It comes naturally to me and I can hit about one out of three with pistol, rifle or shotgun. However if I have the time and want to be sure of my kill I must aim and so must nearly everybody else.

The choke in the bore of your gun is important. Many of the champions shoot only



A little fellow can't handle a big gun.

SHOTGUN SHOOTING



Let the factory fit you.

the full choke, some of them recommend the modified choke for the right barrel and the full choke for the left. There are as many opinions in regard to the proper choke as there are different kinds of guns. I have had my own guns changed to suit me and my method of shooting a very heavy load. So that now my guns are bored with right barrel full cylinder, left barrel full choke, which suits me 100 per cent plus. I do not recommend this bore to anyone. My recommendation is that each individual ought to find this out for himself by experience.

The shot used for different kinds of game is also important, and therefore I will say that for small birds $7\frac{1}{2}$ chilled is best for most shooters. When shooting "Blue Rocks" over the trap I like the regular trap loads put out by all ammunition makers. They are all good. In the field it is not convenient to carry two or more sizes for the different kinds of game, and therefore, for myself I carry only one size—No. 6 chilled with a very heavy charge of powder. For me this works very well and gets them all. For large birds or animals, however, No. 6 is too small. For wild turkeys No. 2 is better. But not many people ever see a wild turkey or a wildcat, and No. 6 will do the business if the gun is properly held with the proper charge of powder. Carrying two or three different sizes of shells is a nuisance from my standpoint.

Recoil—"Kick"—What makes a gun kick?

Lots of things cause it. One of the common causes is improper holding. When the gun is held firmly, correctly, it will not "kick" so that you can notice it. Too heavy a powder charge for a light weight gun will cause recoil. The recoil of any kind of a gun never did bother me, but many shooters do not like it at all and use recoil pads to overcome it. Some of these pads stick to the coat and do not come up as swiftly as a hard rubber or a steel butt-plate. All makes of pads have their good points. Shooting in the field does not require any because you will not get enough shots in one day to make one worth while. When the stock fits well without a recoil pad, it ought to be cut off, so that when the recoil pad is attached the

length of the stock will be the same as it was before the pad was attached.

Scatter loads, thicket loads, spreader loads, and so on and so forth, are a nuisance for me and I no longer bother with them. They do not hit at close range as good as the standard loads for me, and if the gun is properly held at close range it will do the trick with the standard loads better than with any other kind from my standpoint. Of all my friends in the shooting game I do not know of a single man who uses or recommends scatter loads for any purpose. They are a novelty more or less. If you like them go ahead and use them. I have no use for them.

The Straight Stock Gun: This kind of a gun is used a lot by trap shooters and is aimed generally from the middle of the rib with both eyes open. If you have the time and the money to experiment with the straight stock gun you will have lots of fun with it, and after you get to master the principle you will be an extremely good trap shooter.

Variety is the spice of life and a variety of guns will give you variety in the shooting



What makes her kick?

game. The "stick to one gun" man has his reward perhaps, but I cannot think of any of the champions who only had one gun all of their lives. Fred Coleman (The old World Champion, now 67 years of age, living in Clinton, Me.) has handled and owned dozens of different kinds of guns during his long and busy shooting career. He started when he was a boy. He did not stick to one gun, and he owns a string of guns now. I do not recommend this to anyone. If you like to believe that only one gun will make you a good shot it's all O.K. with me.

Now to hold the gun is a matter for each individual. Find out the way you shoot the best and stick to that method. It is like holding your pen when writing. After you leave school and get away from the teacher's rules you hold your pen to suit yourself and write the best way you can, no two of which are alike, and most writing is so poor it can hardly be read. Likewise most shooting is poor in the field unless, and only unless, the

individual takes enough interest in it to study it carefully.

Being a good shot is like being a good anything; good penman, good mechanic, good singer, good speaker, good musician, and so on and so forth. Some of us have a talent for it and take to it easily. Some shoot better with rifle than with shotgun and some better with shotgun than with rifle. A naturally good shot is generally good with both. The talent can be developed the right way or the wrong way. Make of gun makes no difference if it is a good gun and made to fit your body.

Reading books and magazines on the subject.

If you have the time read 'em all. There is lots of bunk in all of the stuff written. The straw pile (chaff) is always larger than the pile of wheat, and so the bunk will be plentiful in everything you read but you will find something. My own plan is to check every statement of any importance, and if I cannot prove it as easily and as simply as I can prove that 2 plus 2 make 4, then I throw it out as of no value. And therefore, if there is any statement in this article which you cannot prove just as easily I hope and trust you will not be influenced by it.

The fundamentals are simple and he who understands these simple fundamentals will shoot well with only ordinary talent, and with this understanding if he has a good talent for it he will become a crack shot.

The Fundamentals Are Three in Number

1—Good eyesight, quick coordination between the brain and every nerve and muscle in the body.

2—A very good understanding of woodcraft and of the habits of the game to be hunted.

3—The very important knowledge that the shot must travel in a straight line through the axis of the bore from the gun to the target in order to hit.

These are the fundamentals. All other knowledge is of no value without any or all of these three.



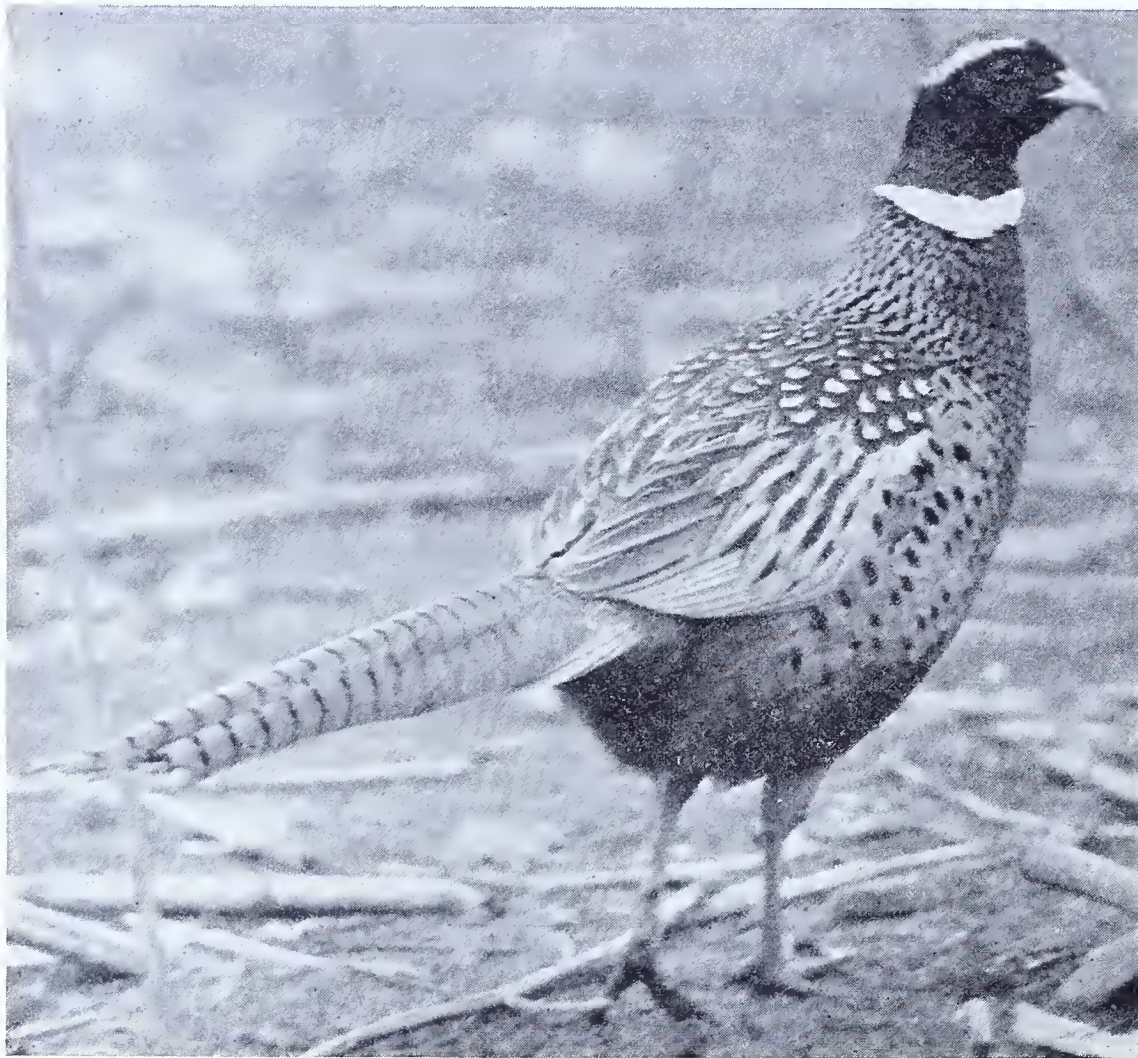
Don't be a bookworm.

Crop Damage by Ringneck Pheasants

A Preliminary Report

by

John R. Langenbach



The Field Studies

Several trips to the Lancaster County tomato fields were made in 1939. The first, on August 10 and 11, was designed to determine the actual amount of damage to canning tomatoes caused by pheasants before any actual gathering of the fruits took place. This was followed by two additional visits on August 17 and September 6, when the same fields were rechecked for damage after the harvest and sale of the produce had begun.

After contacting a number of farmers who had lodged complaints with the District Game Protector, Mr. Haverstick, a damage tally was undertaken. The method of procedure was as follows:

Three sample areas were selected in each field, one at either end and one in the middle of the patch. In these, every tomato found on the vines was counted and classified. This grouping broke the fruits into red and green classes and included information as to the various types of damage exhibited. The type groups were rot, sun scald, insect, cull, bird, disease, mammal, mechanical, freak and unknown. The bird damage included that caused by all species of birds including the pheasant, the crow, the starling, the grackle, the domestic chicken and others. The mammal type included injuries caused by mice, groundhogs, rabbits, and others. No attempt was made to classify the causes of rot, the nature of the diseases present, nor the species of insects causing damage. The mechanical classification included damages by the pickers and transportation equipment, though no tally was made where transportation lanes crossed the fields. The freak

Introduction

DURING recent years, reports of crop destruction by ringneck pheasants have frequently been received from numerous sections of Southeastern Pennsylvania. In the main, these have been concerned with the "pulling" of freshly sprouted corn, with the "picking" of early truck and late canning tomatoes, and the "stripping" of eared sweet corn.

It has long been felt that many of the reports received were greatly exaggerated and that little actual crop damage is caused by pheasants. Furthermore, it is a known fact that the ringnecks are important insect destroyers and it is commonly believed that the benefits derived from this habit far outweigh the occasional crop damage actually inflicted by the birds. Nonetheless, the Pennsylvania Game Commission, at its July 1939 meeting, directed that a study of crop damage by ringneck pheasants in Southeastern Pennsylvania, particularly Lancaster County, be promptly undertaken by representatives of the Pennsylvania Cooperative Wildlife Research Unit and the Commission's own Division of Research.

In view of the facts mentioned above, the two research organizations promptly inaugurated a series of investigations concerned with crop damage by pheasants. Dr. Logan J. Bennett and Dr. P. F. English of the State College Unit and Richard Gerstell, John R. Langenbach, R. D. McDowell, Kenneth A. Wilson, John Haverstick and Peter J. Fil-

kosky, of the Pennsylvania Game Commission actively cooperated in the field work. Because the project was not initiated until mid-summer, it has to date been possible to obtain data only on damage to tomatoes grown for wholesale canning purposes. Thus, it is the object of this article merely to present a preliminary report on this one particular phase of the research, but the work will be continued and a complete report will be made public at a later date.

TABLE II
EVALUATION OF TOMATO DAMAGE

TOMATO GROUPS	RED FRUITS			ALL FRUITS		
	Percent of Total Counted	Tomatoes Damaged Per Ton	Average Loss Per Ton	Percent of Total Counted	Tomatoes Damaged Per Ton	Average Loss Per Ton
Rot	21.05%	1052.5	\$3.1575	2.19%	109.5	\$0.3285
Sun Scald	4.41%	220.5	\$0.6615	0.49%	24.5	\$0.0735
Insect	4.05%	202.5	\$0.6075	1.28%	64.0	\$0.1920
Cull	2.90%	145.0	\$0.4350	0.54%	27.0	\$0.0810
Bird	1.48%	74.0	\$0.2220	0.19%	9.5	\$0.0285
Disease	0.89%	44.5	\$0.1335	0.24%	12.0	\$0.0360
Mammal	0.54%	27.0	\$0.0810	0.09%	4.5	\$0.0135
Mechanical ...	0.16%	8.0	\$0.0240	0.07%	3.5	\$0.0105
Freak	0.02%	1.0	\$0.0030	0.01%	0.5	\$0.0015
Unknown	0.02%	1.0	\$0.0030	0.01%	0.5	\$0.0015
Totals	35.52%	1776.0	\$5.3280	5.11%	255.5	\$0.7665

group included unmarketable fruits of peculiar shapes, while the culls were those which would have been thrown out as such by the graders at the receiving stations.

Table I shows the total number of tomatoes counted, the number of damaged tomatoes observed, and the percentage of damage falling into each of the ten types listed above.

Although the table is self-explanatory, certain figures are of particular interest. Of the 45,710 fruits counted, only 5.11% were damaged. Rot, which represented the most frequent type of damage, affected 2.19% of the fruits examined. Only 88, or 0.19%, of the fruits were damaged by birds of all kinds. Of especial significance are the statistics for the red fruits, which in most cases were ready to be picked. Only 4,187 red tomatoes were tallied but 1,487, or 35.52% were damaged. Here again rot was the important factor with 59.5% of all damaged red tomatoes falling into this class, while only 4.0% were injured by birds.

Some farmers were inclined to blame birds for the rot observed, saying that this defect was really caused by bird picking. Other individuals, however, readily admitted that they knew rot was not caused by bird picking when the fruits were small. The majority of farmers were convinced after they made an actual inspection trip, wherein true bird damage was pointed out, that the loss due to birds was very small. Furthermore, a number of the men stated that they believed all birds, but particularly the pheasants, do more good by eating harmful insects than they do damage by picking into tomatoes.

Computation of the total tomato losses on the basis of tonnage and cash is of interest. For use in this, Mr. Donald M. James, Division of Fruits and Vegetables, Bureau of Markets, Pennsylvania Department of Agriculture, has furnished the following average figures:

75 average tomatoes per basket
5,000 average tomatoes per ton.
\$15.00 average price per ton.

Using these average figures in combination with the percentage figures in Table I, the average cash loss to the grower can be computed, as shown in Table II.

This table presents the average computed cash loss from each type of tomato damage, both for all fruits and for ripened tomatoes. The losses per ton of the ripened fruits are the significant figures.



Photo by Dr. Logan J. Bennett

Robert McDowell and John Langenbach of the Division of Research, Kenneth Wilson, Game Land Technician, and Game Protector John Haverstick checking tomato damage by ringneck pheasants.

The figures in Table II are self-explanatory, but certain of them should be emphasized. Although the survey was made because of complaints of extensive tomato damage by pheasants, the results of the survey showed that the damage caused by rot, sun scald, insects and culling were all in excess of the damage by birds. Of all the tomatoes counted, the average loss from rot was \$0.33 per ton, while that from birds was but \$0.03 per ton.

Those figures pertaining to the red fruits are of particular interest. The loss from rot was \$3.16 per ton, compared to a similar figure of \$0.22 for birds of all species. When all types of tomato damage are totaled, the loss in the red fruits amounts to \$5.33 per ton. The make-up of the total damage is clearly shown in the table.

During the time that the survey was in progress, it became quite evident that the pheasant was not doing sufficient damage to warrant the collection of any specimens for stomach analysis work. Therefore, though the Commission had approved the collection of a limited number of birds for study purposes, *not a single bird has been taken for this purpose.*

Conclusions

Since the study was made during the latter part of the growing season, when the greatest damage might be expected, the survey would seem clearly to indicate that birds do not cause excessive damage to tomatoes grown for wholesale canning purposes. Although the investigation was inaugurated to determine the damage caused by ringneck pheasants, the difficulty encountered in attempting to segregate the losses caused by the various species of birds has made it unwise to attempt to compute an accurate figure for pheasants alone.

With the start of the 1940 growing season, the investigations will be resumed. They will cover the "pulling" of freshly sprouted corn, the "picking" of early truck tomatoes and the "stripping" of sweet corn.

Tomatoes, as a commercial crop, are on the increase in Pennsylvania. Thus, a study of expected losses is of particular importance. The completion of this survey should definitely determine the status of the ringneck pheasant with respect to annual damages to this and other crops.

TABLE I
CLASSIFICATION OF TOMATO DAMAGE

TOMATO GROUPS	RED FRUITS			GREEN FRUITS			ALL FRUITS		
Numbers of Fruits Counted	4,187			41,523			45,710		
TYPES OF DAMAGE	Number Damaged	Percentage Red Fruits Damaged	Percentage Both Groups Damaged	Number Damaged	Percentage Green Fruits Damaged	Percentage Both Groups Damaged	Number Damaged	Percentage Total Damaged	Percentage Of Fruits Counted
Rot	882	59.5%	21.05%	116	13.8%	0.28%	998	43.0%	2.19%
Sun Scald	185	12.2%	4.41%	38	4.5%	0.09%	223	9.6%	0.49%
Insect	170	11.7%	4.05%	413	49.2%	0.99%	583	25.1%	1.28%
Cull	122	8.2%	2.90%	120	14.2%	0.29%	242	10.5%	0.54%
Bird	59	4.0%	1.48%	29	3.6%	0.07%	88	3.4%	0.19%
Disease	38	2.2%	0.89%	71	8.5%	0.17%	109	4.7%	0.24%
Mammal	22	1.5%	0.54%	19	2.3%	0.05%	41	1.8%	0.09%
Mechanical	7	0.5%	0.16%	23	2.7%	0.06%	30	1.3%	0.07%
Freak	1	0.1%	0.02%	4	0.5%	0.01%	5	0.3%	0.01%
Unknown	1	0.1%	0.02%	6	0.7%	0.01%	7	0.3%	0.01%
Totals	1487	100.0%	35.52%	839	100.0%	2.02%	2326	100.0%	5.11%

Dear Editor

Author's Note: The Editor of Game News has always been firm in his belief that editors should be neither seen nor heard. Editors, we maintain, should remain hidden away in the fastnesses of their editorial sanctums, remote from irate readers, writers whose contributions have been regretfully rejected—by mail—and those eagle-eyed intellectuals who found a grammatical error in the last issue of the magazine.

Nevertheless, the accompanying article deliberately breaks this long-established precedent for one reason, and for one reason only. It may help you, dear reader, and you and you—dear contributor—to understand some of the difficulties that beset the Game News, and some of the reasons why it is not always possible to accede to the numerous requests that come to the Editor's desk for space. It also is designed to supply sportsmen's associations and individuals with information concerning the type of news that will make the magazine—your magazine—increasingly better and more valuable to its readers.

(As the curtain rises, the Editor is crouched behind a desk littered with letters, telegrams, magazines, newspapers, Department publications, ash trays, fountain pens that won't write, paper clips, etc. The head is partially covered by rapidly thinning hair. The face beneath reflects the hunted expression of a creature at bay—desperate but determined. A buzzer sounds. A secretary enters, notebook and pencils in hand.)

EDITOR—Take a letter.

SECRETARY (surveying mountain of mail on his desk)—Yes, sir. Which one, sir?

EDITOR—Don't try to be funny. Don't you know this is Monday morning? Let's start with Notices and Meetings. (Picks up a pile of letters and runs through them rapidly.)

Acknowledge this for publication in an early issue. Ditto with this. Ditto with this. Here's an association that wants an advance meeting announcement published in the next six successive issues. Tell 'em we'll be glad to run it as often as space permits, but there are other outfits that also use our column for announcements, and we must divide our available space as impartially as possible.

SECRETARY—Yes, sir.

EDITOR—Here's a club secretary that wants us to publish the resolutions adopted by his organization upon the death of one of its members. Tell him we're sorry but that it is mechanically impossible, from the standpoint of space alone, to publish all the resolutions of condolences adopted by clubs on such occasions. What's next?



SECRETARY—There are a lot of pictures this morning.

EDITOR—Good! Here's a good clear shot. Tell 'em we'll be very glad to use this picture of the community building erected by the Surefire Sportsmen's Association. Congratulate 'em on this fine evidence of their community spirit and service. Here's a snapshot of a junior club. Return it and tell 'em we'll be glad to publish it if they'll send us a better photograph. Tell 'em to have the picture taken by a commercial photographer. Explain that snapshots are hard to print, especially when they're blurred like this one. Ask 'em for a picture about 8x10 inches in size, gloss finish, and as clear and sharp in detail as possible.

(Secretary writes busily in her notebook.)

EDITOR—Here's one we'll have to send back. It's a picture of the newly elected officers of the Deerfoot Sportsmen's Association. Tell them we're sorry but that there are over 1000 other active associations in the state and if we print the picture of the officers of one outfit—we've got to do the same for all of 'em and that's out of the question. Explain that pictures submitted for publication in Game News must have a timely news value of interest to all readers.

(Editor looks through a dozen more pictures. Tells secretary to accept for publication one of a ladies' auxiliary trap club which has won three successive state championships; one of a rifle team that will represent a certain club in the state competitions; another of a new clubhouse on which the mortgage papers have just been burned, and another of a group of State Federation officers who attended a state conference. Tells

Secretary to reject, with his regrets, one showing a sportsmen's banquet. The picture is 18 inches wide and shows an assembly of several hundred people. By the time it is reduced to fit page width, most faces would fade into the background, and few individuals in the entire group would be recognizable.)

EDITOR—That's all for now. I'll dictate some replies while you're getting these out.

(Secretary departs, her arms piled high with notebook, photographs and letters.)

EDITOR—(Picking up first letter and speaking into the mouthpiece of a dictaphone.)

Dear Mr. Jones: Thank you for calling to our attention the typographical error on Page 14 of last issue of Game News. We constantly strive for typographical perfection in our magazine but regret that, due to the many hands through which our copy must go in the process of being printed, there is a certain margin of human error which sometimes results in the misspelling of a word or a transposed number. There is only one ray of sunshine for the editor when a typographical error occurs. The complaints give him proof the magazine is being read.

Dear Mr. Smith: This will acknowledge your letter of recent date informing us of the bird house building contest being sponsored by your association in the schools of your community. We shall be glad to publish an article concerning this worthy activity in an early issue of Game News, and hope it will serve as an inspiration to other groups throughout the State in planning their programs of community welfare activities for the coming year. Please accept our congratula-



ing the details. You say "a large crowd was present". Please tell us approximately how large—100, 500, or 1000 persons? You say there were some other state conservation officials present. Please tell us who they were so we may use their names in the proposed article. You also mention visiting wildlife conservation clubs but do not tell us the names. Please be assured that we shall be glad to publish an adequate account of this affair if you will supply us with sufficient information to make such publication possible.

Dear Mr. Green: We are sorry that limitations of space make it impossible for us to publish an account of your Conservation Week program. Virtually all of the 1000 clubs in the State sponsor observances during Conservation Week and similar occasions. Such events are in line with our aims and purposes. Because Game News seeks to hold the interest of readers throughout the state as a whole, it is necessary that all contributions acceptable for publication be based on activities of general news interest to all sportsmen.

SECRETARY—Did you ring, sir?

EDITOR—Yes, we'd better get some more of these out of the way while we can. Take this one. Tell them we're sorry we can't publish a story of their membership campaign because every club is conducting membership campaigns. Suggest they place news stories concerning their membership drive in their local press where they will be seen by non-member sportsmen in their vicinity.

SECRETARY—Here's one from a club secretary who outlines his association's achievements for the past year. What shall I tell him?

EDITOR—Ask him to report his club's activities month by month from now on instead of saving it all up for one contribution. Remind him we try to keep our columns up-to-date, as well as entertaining, and that a mid-winter report of a mid-summer entertainment would not reflect much credit on either his club or Game News.

SECRETARY (hopefully)—Is that all?

(Editor nods his head but changes his mind as mail clerk enters with a large bundle of mail which she proceeds to deposit on the editor's desk. Secretary resumes her seat and opens a fresh notebook. He opens envelope, unfolds letter and reads rapidly: Dear Editor: Please publish the enclosed poem . . . Hmm. All is not poetry that rhymes and these rhymes aren't terribly hot anyway. Return this and tell him we're sorry but it just doesn't fit into our program. We're too crowded to spare any room except for material definitely related to wildlife conservation and its objectives. Picks up photograph with several typed pages clipped to it.)

EDITOR—What's this? "Congressman X. Y. Z., the sportsmen's friend," and the story of his life. Put the picture in our files. It might come in handy. Return the article. Write him a short polite note telling him all available space in Game News is needed for the discussion of Game Commission aims, purposes and activities. We can't very well tell him so, but we're not using Game News to exploit any office holder or politician who's out after the sportsmen's vote. Let 'em prove they're the friends of sportsmen by the way they act in the Legislature or in Congress. If they vote right they won't have to worry about our votes at home.

SECRETARY—What do you want me to do with this article on wildlife research and management?

EDITOR—Who wrote it? Anyone who really knows what he's talking about?

SECRETARY—Well, it's well-enough written but the author isn't in "Who's Who" and doesn't appear to have any research background.

EDITOR—Fraid we can't accept the opinion of a private citizen as authoritative, especially when the subject is a particularly technical one. Thank him for letting us see this, but tell him that wildlife research and management are two of the major objectives of our program and that we feel the subjects

(Continued on Page 31)

tions on this fine exemplification of your principles and purposes.

Dear Mr. Robinson: We shall be glad to publish an account of the recent sportsmen's show sponsored by your organization if you will send us some specific information. Your letter shows considerable enthusiasm, but leaves us pretty much in the dark concern-



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

SETTLING GAME CASES IN THE FIELD, ETC.

- Q. (1) Has an officer in the field making an arrest the right to receive the fine?
 (2) Is it necessary to send in a roster when big game season is over?
 (3) Why are the trees marked with white and red paint on State Game Lands?

R.H.—Mahanoy City, Pa.

- A. (1) A Game Protector has the legal right to settle violations of the Game Law in the field if the defendant is willing to sign a plea of guilt, and accept payment of the fine stipulated by law. The accused receives an official receipt bearing the signature of the Executive Director of the Game Commission.

(2) It is no longer necessary to send in a roster of a big game hunting party. The law requiring this was repealed in 1939.

(3) The boundaries of all State Game Lands are now painted white. The red on these boundaries is accounted for by the fact that our boundary lines are sometimes common with those of the Department of Forests and Waters and that Department uses red paint.

* * *

"SPORTSMAN" DEFINED

- Q. What is a sportsman, and I do not mean a newspaper sportsman?

M. DeM.—R.D. No. 1, Greensburg, Pa.

- A. According to a good dictionary, a sportsman is "ONE WHO IN SPORTS IS FAIR AND GENEROUS; ONE WHO HAS RECOURSE TO NOTHING ILLEGITIMATE; A GOOD LOSER AND A GRACEFUL WINNER." This is as fine a definition as we know of, and if more hunters would endeavor to measure up to its ideals, undoubtedly there would be better hunting in Pennsylvania.

* * *

LIVE SQUIRRELS IN POSSESSION

- Q. Can a person keep a live squirrel if he has a permit? If so, where is the permit obtainable and at what price?

H.S.—Philadelphia, Pa.

- A. No, not if it was taken in a wild state in Pennsylvania. No permits are available for keeping wild protected squirrels in captivity. The Commission tries to discourage this practice.

* * *

DO DEER SHED ANTLERS?

- Q. Do deer shed their antlers every year?

C.B.G.—Lancaster, Pa.

- A. Yes. Not only deer, but all members of the deer family, such as the elk and moose shed their horns each year and grow a completely new set within 7 months after the loss of the old ones. Rodents are said to feed on the shed antlers, which probably accounts for the fact that comparatively few of them are found in the woods.

MUSKRATS IN WINTER

- Q. How do muskrats survive the winter? Do they hibernate like the groundhog when the creeks are frozen over, as at present, or can they feed under water?

F.Y.—Muse, Pa.

- A. Muskrats with their heavy, warm, waterproof coat of fur have little trouble surviving the winter. They do not hibernate, but live in the chambers of their dens or houses above the water line, and if necessary feed upon the roots and other vegetation forming a part of their homes. The entrance to a muskrat house or den is nearly always under water, but the room or chamber in which they actually live is above the water line, ventilated by a small invisible hole, or by air penetrating through sticks forming the top of the house. When winters are severe and ice prevents their foraging for food, the muskrat is forced to eat the plant or root construction of his own home, often doing so to almost the open air on the ceiling.

* * *

RED-TAILED HAWKS

- Q. If I were to capture a red-tailed hawk that was annoying a farmer's poultry, could I keep the bird alive for a pet and use as a visual aid in lecturing on birds?

C.J.M.—Millersville, Pa.

- A. No. The red-tailed hawk is now given absolute protection in Pennsylvania except that it, as well as any other hawk, may be killed at any time when caught in the act of destroying domestic livestock, poultry, game, other protected birds, etc. However, there is no provision in the law for capturing protected hawks alive, and the possession of any protected hawk involves a penalty of \$10.00. The Game Commission does not issue permits for the possession of any protected birds alive, regardless of the purpose.

* * *

LOADED FIREARMS IN VEHICLES

- Q. Please give me your interpretation of the law concerning loaded guns in vehicles. Would it be considered unlawful to have shells in the magazine of a bolt-action rifle when bolt of rifle is removed from same?

L.C., Jr.—Apollo, R.D. No. 1, Pa.

- A. Yes. The present Game Law makes it strictly illegal to possess in a vehicle on or along a public highway, a rifle or shotgun from the magazine of which all shells and cartridges have not been removed. Even though you remove the bolt from a rifle, that would not permit its possession in a motor vehicle with cartridges in the magazine. All shells must be removed from the magazine, as well as the chamber, of the gun.

CROW HUNTING ON SUNDAY

- Q. Is it within the law for a licensed hunter to shoot crows on Sunday, also on the roost after dark?

R.C.—West Chester, Pa.

- A. It is, insofar as the Game Law is concerned. It is also legal to shoot crows on their roosts after dark. These birds are too numerous in Pennsylvania, and for the good of more beneficial wildlife, a reasonable reduction in their numbers is justified. It may be possible under the Blue Law to prosecute for the discharge of firearms anywhere in Pennsylvania on Sunday, but this is a matter beyond the immediate jurisdiction of Game Protectors.

* * *

GESTATION, MATING SEASON, OF DEER

- Q. (1) How long is the gestation period of a deer?
 (2) At what time of the year is the mating season?
 (3) Does a deer "chew the cud" like a cow?

M.L.B.—Walnutport, Pa.

- A. (1) The gestation period is 205 to 212 days, or approximately 7 months.
 (2) The normal mating season for Pennsylvania deer is October 15 to November 30, the height of the season being early in November.
 (3) The deer is a ruminant, and chews the cud the same as a cow.

* * *

DELAWARE RIVER DUCKS

- Q. I shot several black ducks along the Delaware River, which had a very strong oily smell; even the meat tasted oily. What does this come from? Is the meat fit to eat?

W.S.—Glenolden, Pa.

- A. These ducks were probably saturated with oil from local refineries that had carelessly been permitted to escape into the river. Ducks feeding in oily waters of this kind undoubtedly become affected by the oil, and too much of it will kill the birds. In our judgment the flesh of ducks under these conditions would not be fit for food.

* * *

VISITING TRAPS

- Q. Is my brother permitted to look at my traps if he has a license and my name is on the traps?

J.W.M.—Monaca, Pa.

- A. Yes, with your permission. The fact that your name is on the traps does not prohibit your brother or any other person whom you authorize, from visiting the traps. It is unlawful to disturb the traps of another or take an animal from same without the trapper's consent.

THE LAND PURCHASE PROGRAM

By W. GARD CONKLIN

Actions Taken By Commission January 11, 1940

A total of 43 land purchase options were considered by the Commission during its meeting January 11, 1940. The 43 options included a total of 26,018 acres for which \$80,510.00 was asked. The Commission unconditionally accepted 13 options for a total of 5,020 acres, and made counter offers for two other tracts containing 354 acres providing the owners agreed by January 24, 1940 to sell at the specified lower price per acre. The Commission's counter offer was agreed to by the owners of one tract but the other owner failed to do so.

Purchase contracts were consequently entered into for 14 tracts totalling 5,299.8 acres.

Twelve options for 7,518 acres, were rejected for one reason or another, and action on 16 options, for 13,127 acres, was postponed until a later meeting.

Following are the tracts for which purchase contracts were entered into with the respective landowners:

COUNTY	OWNER	ACRES	ADJACENT TO
Berks	Mrs. Catherine T. Gross	51.0	Game Lands No. 110
Bucks	County Commissioners	3.2	Game Lands No. 157
Susquehanna	Ursula F. Smith	156.0	Game Lands No. 140
Pike	Mabel Ely, Augusta Keys, Margaret Mumford and Adele Mumford	1,357.0	New Project
Pike	Robert S. Pierson	50.0	
Sullivan and Wyoming	Heirs of Elizabeth R. Ricketts	1,624.0	Connects Game Lands Nos. 13 and 57
Sullivan	Edward Meehan	640.0	Game Lands No. 66
Huntingdon	Jerry D. Bogar, Jr.	273.6	Game Lands No. 112
Bedford	William May	10.0	Other tracts being purchased
Bedford	Harry McDonald	419.0	Game Lands No. 48
Erie	Leroy T. Cady	36.0	Game Lands No. 154
Lawrence	John Morris	178.0	New Project
Lawrence	W. G. Miller Heirs	222.0	New Project
Somerset	W. J. and J. A. Critchfield	280.0	Game Lands No. 104
Total 14 tracts		5,299.8	

Tracts of land now under contract for purchase, throughout the State, including the above, aggregate 52,000 acres. Boundary line surveys are being made and the titles examined as rapidly as available personnel and other conditions permit. After each title is examined, an abstract or history of it is prepared and submitted to the Department of Justice for review, and when approved by that Department the case is in line for settlement.

Restriction on Land Purchases

The Commission is making a study of the land purchase and leasing program in an attempt to determine upon a sound, practical policy to be observed in the future. Large sums of money are



Game Refuge No. 33 in Center County. Game Land Manager Elmer Pilling in left foreground.

annually expended in management and development of lands purchased, and those for which the Commission is more or less responsible because of leases and other agreements entered into with private owners and certain public agencies. The question has therefore been raised as to whether or not this program has about reached its limit consistent with present funds.

In consequence, the Commission, at its meeting January 11, 1940, agreed that until such time as a definite future land purchase policy is adopted by the Commission, only interior holdings, tracts required to straighten out boundary lines, or lands in agricultural territory in counties where State Game Lands acreage is comparatively small or lacking, will be considered for option or purchase.

Only a comparatively small amount of money remains unexpended or unobligated in the Commission's budget for the purchase of land to June 1, 1940. This includes funds made available by the Pittman-Robertson Federal Aid to the States in Wildlife Restoration Act.

Purchases Recently Settled

Since last reported in the December 1939 issue of the Game News, title has been vested in the Commonwealth, for use of the Game Commission, for a total of 18 tracts totalling 4,524.6 acres.

The recently completed purchases are here listed:

COUNTY	GRANTOR	ACRES	DESIGNATION
Bedford	Edward F. Schroyer	115.7	Addition to Game Lands No. 104
Bucks	Cora B. Litzenberger	13.4	
Bucks	Elvin Horne	5.0	Additions to Game Lands No. 157
Bucks	William Long	6.2	
Bucks	William Long	3.4	
Bucks	Edwin H. Bleam	6.7	Designated Game Lands No. 166
Blair	Robert T. Norment	1,771.5	
Lawrence and Beaver	Gersham Grinnen	66.5	Addition to Game Lands No. 148
Lawrence	Medusa Portland Cement Co.	39.5	
Warren	First Nat'l Bank of Warren	364.7	Additions to Game Lands No. 143
Warren	Mike Wroblewski	100.3	
Warren	George Seavy	625.5	Additions to Game Lands No. 99
Huntingdon	R. D. Harper	414.5	
Huntingdon	Richard D. Whitsel	619.5	Designated Game Lands No. 167
Erie	Read Merry	43.6	
Erie	Securities-Peoples Trust Co.	178.6	Addition to Game Lands No. 39
Venango	Gertrude B. Perrine	104.1	
Venango	Alfred M. Smith	46.9	Addition to Game Lands No. 96

Total 18 tracts 4,524.6

With the acquisition of these tracts, the aggregate area of State Game Lands reached 620,677 acres, distributed through 55 of the 67 counties of the State.



Photo by Harry Hostetter
Bobwhite quail, Juncos, and Sparrows at winter feeding station.

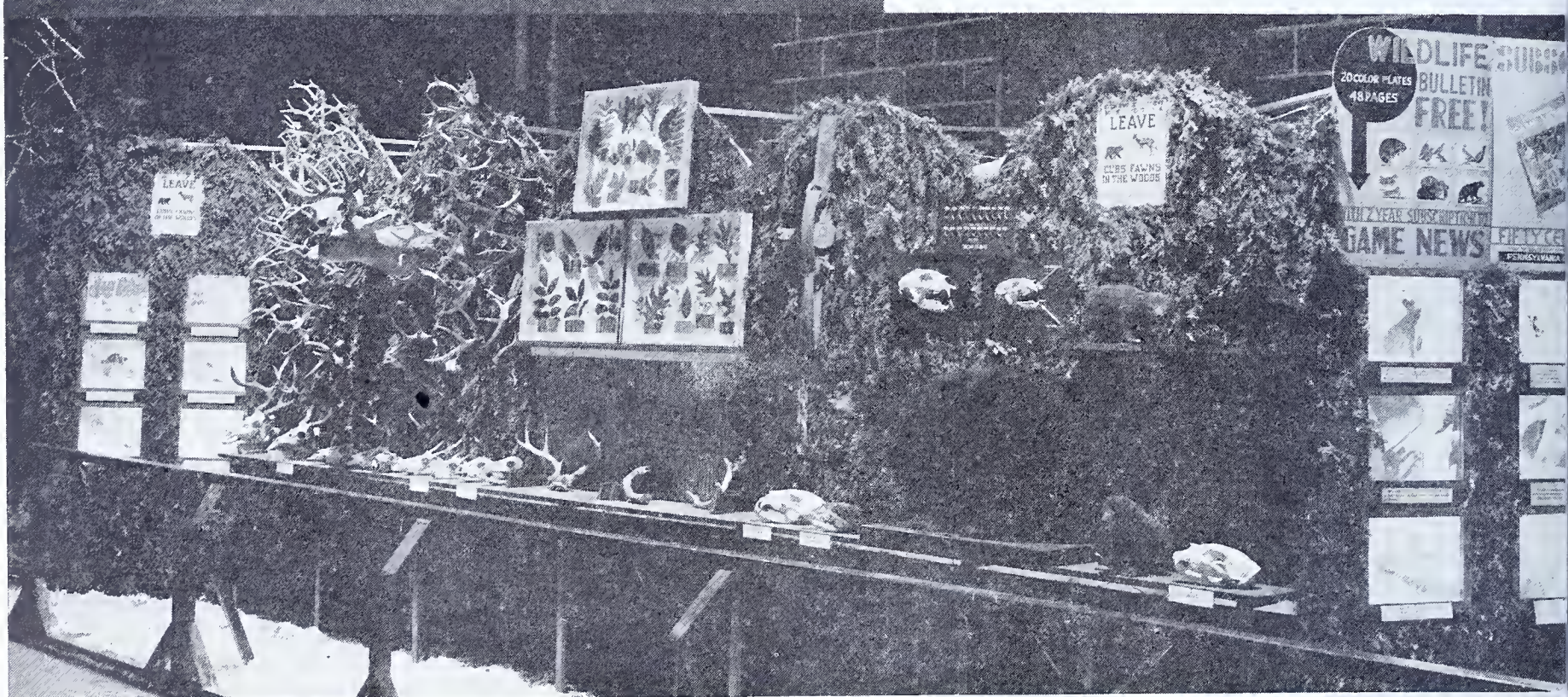
WILDLIFE EXHIBIT

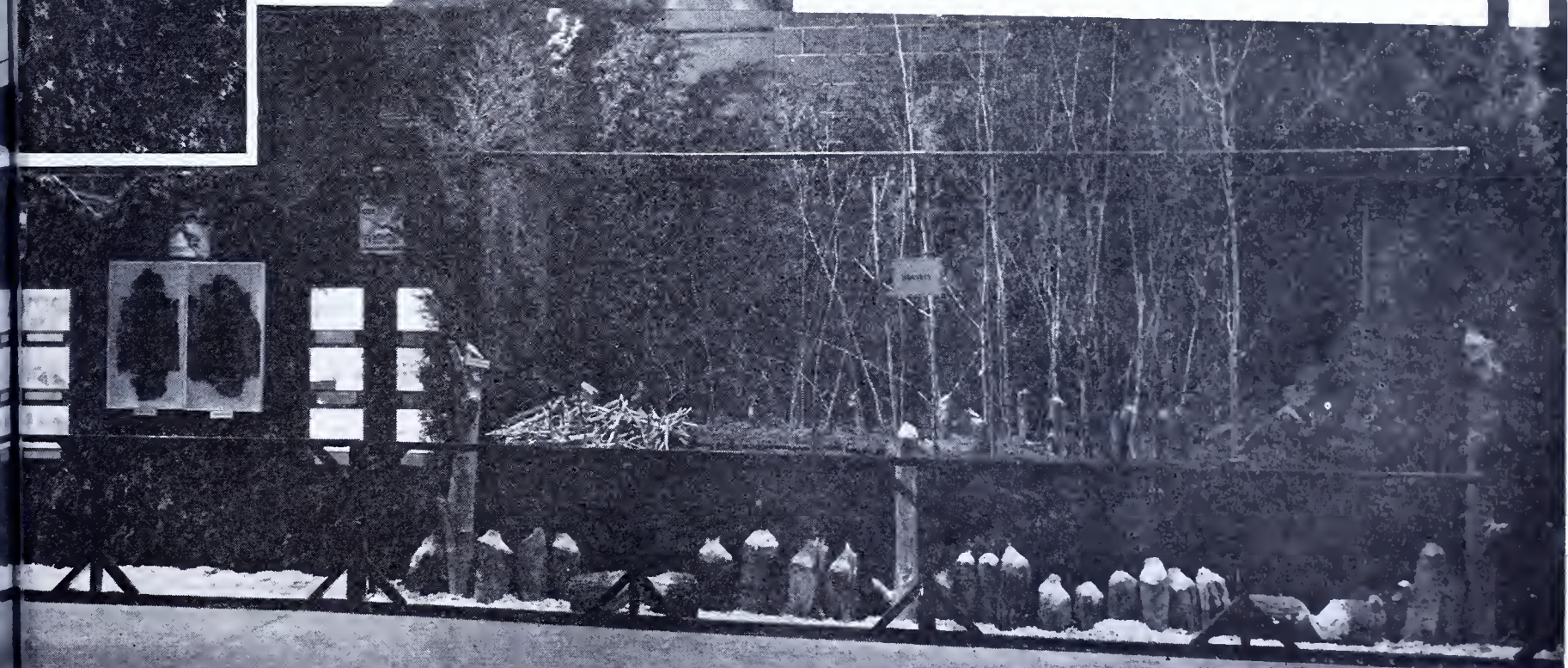
The Commission's wildlife exhibit at the State Farm Show was one of the most educational ever displayed.

The picture at top shows the center panel depicting, from left to right, a stone rabbit hutch, clean and up-grown fence rows, special wildlife refuge, and wild turkey propagation area.

The panel below portrayed all kinds of deer horns and deer and bear skulls, while the one at the bottom right contained a miniature beaver dam with running water and two live beavers, intimate views of which are scattered over the page.

Panel photos by Wm. Drake; Beaver close-ups by C. Gordon Kriebble





CURRENT TOPICS



V. Rouillot

Commission Adopts New Propagation Plan

Decentralized System to be Used in Raising Game Birds.

The Pennsylvania Game Commission at its meeting of January 11, 1940, consolidated two of its smaller operating units, effective as of March 1, 1940. The Division of Game Propagation and Distribution and the Division of Research were merged and consolidated into a Division of Propagation and Research, a major unit in the Bureau of Field Operations, which functions under the immediate supervision of the Assistant Executive Director. The Executive Board concurred in the action of the Commission.

This change was considered when the re-organization plan was submitted and agreed upon during the summer of 1938 (details of which were published in the February 1939 issue of the *GAME NEWS*), but the Commission preferred to give the matter further study.

The several superintendents of State Game Farms are capable, experienced propagators who will require only limited supervision or assistance from the Harrisburg Staff. Under this new decentralized plan of operation, each of these superintendents will be in full and complete charge of all farm operations, just as the Field Division Supervisors have been in charge of field activities in their respective divisions. The Harrisburg Office will serve primarily as a staff service agency to coordinate the work, to handle routine matters, and to render special assistance on disease or nutritional problems whenever the occasion may arise.

Due to the fact that game propagation, game purchase, distribution, and research are so closely related and interdependent, the Commission at its recent meeting decided this plan of operation would guarantee operating efficiency, save money, eliminate waste, and assure maximum production of game birds of the highest quality for the funds expended.

The Commission intends to continue, without curtailment, its recently expanded game farm and distribution program, and to render sportsmen's organizations which desire to cooperate in raising game the necessary aid to assure success in their undertakings. This aid, as in the past, will come primarily either through trained men connected with the game farms, or selected field officers in each Division who have taken special training courses at the farms.

Game propagation expenditures have increased rapidly since the Commission first established State Game Farms back in 1929. For the fiscal year ending May 31, 1930, a total of only \$36,280.93 was expended on the game farms, whereas for the year ending May 31, 1939 the expenditures were \$164,357.89. The game farms budget for the current fiscal year is \$184,410.00. These expendi-

tures have been increased more than 50% within the past five years, and the new plan of operation will guarantee better results than in the past.

The newly merged unit will be under the direction of Mr. Richard Gerstell, a well trained biologist. His first duties with the Commission, back in 1933, were in the capacity of Principal Propagation Inspector, under the direction of the late Charles A. Hiller, who was then in charge of the game farms. He had a very important part in the change-over of the Commission's farms from the old hen method of raising game birds to the present incubator-brooder plan. He also participated actively in the special cooperative studies conducted by Pennsylvania State College in the development of efficient incubation and brooding methods, also im-

Don't forget "The Voice of the Sportsmen" every Friday evening over radio station KDKA, Pittsburgh, at 7:30. This interesting and educational program is directed by Harris G. Breth, Editor of "The Great Outdoors" of the Pittsburgh Sun-Telegraph and of the Hunting and Fishing Forum of the Oil City Blizzard. Every sportsman owes it to himself to "listen in" on this program.

portant nutritional studies, the result of which have been the Commission's chief guide during the past six years. When Gerstell later devoted himself primarily to research and distribution, he continued to keep in close touch with the propagation activities, and rendered special assistance in connection with nutritional and disease problems. Thus he is fully conversant with the added responsibility placed upon him by the Commission's action.

This revision of the organic set-up now consolidates all field operations under three principal staff units instead of four, namely, Law Enforcement, Lands Management, and Propagation and Research.

No Training School This Summer

The Commission at its meeting on January 11 decided not to have a Training School this year, and does not anticipate entering another class until early in the Spring of 1941. By that time all of the graduates of previous classes will have taken over regular assignments, and new timber will have to be trained for future service. We shall thank our readers for passing this note along to anyone who was interested in the school plans for this year.

DEATH ON HIGHWAYS

Following is a report compiled by D. L. Miller, Superintendent of Highways in Venango County, showing the number of dead birds and mammals which were killed on the highways and removed by caretakers from August 10, 1939 to January 3, 1940: Grouse, 13; quail, 1; woodcock, 1; ringneck pheasants, 1; song birds, 24; owls, 4; hawks, 1; rabbits, 656; squirrels, 16; groundhogs, 14; raccoons, 3; skunks, 284; deer, 5; opossums, 126; weasels, 2; porcupines, 1; muskrats, 3; foxes, 1; house cats, 43; and dogs, 20.

WHY NOT TRY THIS FINE IDEA?

During the harvest season last year I noticed farmers in this section cutting their grain with a combine. Being interested in machinery I inspected these machines and noticed that they separated and bagged the grain and weed-seeds. I inquired as to the disposition of the weed-seeds and was told they were burned. Upon request they were given to me, one farmer going so far as to mix them with equal parts of buckwheat. I have found these seeds make excellent feed for quail and small birds.—Vern A. Van Order, Game Protector, Forest County.

"During the past deer season Mr. Ross Pennington of Benton walked up to three does which paid no attention to him whatever but kept looking in another direction. Ross stopped to watch them and heard a clicking noise to one side. Looking around he saw two very large bucks fighting. He watched them for a while then decided to stop the scrap by shooting one of them. The excitement of the fight made him very nervous but taking aim as best he could under the circumstances he squeezed the trigger and the deer bounded off in opposite directions."—Game Protector Edward W. Carpenter, Jamison City.

"This morning at about eight o'clock two deer came down by the garage around the house and ate the vines from the front porch. They were in fair condition, but seemed hungry. Yesterday morning a deer was trying to get corn from the holes in my corn crib."—Game Land Manager Ernest E. Hunsinger, Potter County.

"I caught a rabbit in a box trap for restocking in Cook Forest Park. A fox tried to get the rabbit out of the trap, and the ground was torn up badly where the trap was setting. After releasing the rabbit I moved the trap to a new set the next morning, then found the fox had rolled the trap over the ground and tried to chew into it at several places."—Game Protector Edward Shaw, Clarion County.

CURRENT TOPICS

DISCOVER NEW WARBLER

A new warbler discovered in West Virginia and recently announced in a publication of the Audubon Society of Sewickley Valley was named in honor of Dr. George Miksch Sutton, Curator of Birds at Cornell University. Dr. Sutton, whose home is in Bethany, West Virginia, was formerly in charge of the Bureau of Research and Information of the Pennsylvania Game Commission. The new bird is gully gray with a lemon yellow throat and breast. Carl W. Haller, a teacher at West Virginia, captured two of the species while on a hike through the woods in that section. Mr. Haller, an excellent field ornithologist, is a protege of Dr. Sutton's, the two having made an extensive field trip into the southwest two years ago with that well-known philanthropist of the ornithological world, John B. Semple—a trip on which the editor of Game News also was a guest.

TRANSFER PARK SERVICE

Under President Roosevelt's reorganization plan to coordinate Federal activities and effect economy the Wildlife Division of the National Park Service was transferred to the Bureau of Biological Survey and the Bureau of Fisheries. The Biological Survey and Bureau of Fisheries were transferred to the Department of the Interior last July as conservation agencies were grouped in Interior.

The transfer will provide opportunities for closer cooperation and coordination of the wildlife programs of the Biological Survey, the Bureau of Fisheries and the Park Service.

Those employees of the National Park Service's Wildlife Division whose work dealt with wildlife other than fish, have been transferred to the rolls of the Bureau of Biological Survey. Those employees specializing in fisheries have been transferred to the Bureau of Fisheries. Thereby reorganization objectives are attained by terminating a condition whereby different agencies in one department had jurisdiction over the same subject matter. All will be reassigned to duties in the National Park Service. The change does not increase or decrease the personnel involved, all of whom are civil servants.

Under their new status, those employees transferred to the Biological Survey will work through both the Chief of that Bureau and the Director of the National Park Service. Their office will be known as the Section on National Park Wildlife, Division of Wildlife Research, Bureau of Biological Survey. Victor H. Cahalane, Chief of the transferred division, will serve as head of the new unit.

The work program of the Section will be based on the needs of the National Park Service and will be directed by the head of the Section in accordance with plans developed in consultation with the Supervisor, Branch of Research and Information, and other officials of the National Park Service. Such work program will be approved by the Chief of the Biological Survey and by the Director of the National Park Service. Plans are being evolved to provide for informal

and speedy handling of joint problems and policy questions between the two agencies.

The transfer will give the National Park Service the advantage of increased facilities for research and the benefit of diversified knowledge in many complex fields. Policies on the protection of all fauna will be rigidly observed as they have been in the past.

The President's budget recommended for the fiscal year 1941 includes an item of \$2,500,000 to carry out the provisions of the Pittman-Robertson Federal Aid to Wildlife Act. If the appropriation is made as recommended, approximately \$118,943 would be available to Pennsylvania.

Veteran Sportsman Succumbs



JOHN ANNABLE

More than ten score persons, including prominent State and County officials as well as his mountaineer home folk and neighbors, crowded into the little Church at Forksville, Sullivan County, on January 13, 1940 to pay tribute to the memory of one of its most outstanding citizens.

John Annable, lumberman, former deputy game protector, student of wildlife and recognized authority on hunting and fishing in Sullivan, Lycoming and Warren Counties, died of apoplexy while attending to his duties as Forest Ranger on the head of Shanersburg Run, between Forksville and Laporte, on January 10, 1940. Had Mr. Annable lived until February 21 he would have been 61 years of age.

Born and reared on a farm in Elkland Township, Sullivan County, where he was engaged in farming until he was 20 years of age he then entered the lumbering field, continuing these operations for many years. At one time he was employed by Lyle Grange, remembered as the father of 'Red' Grange of football fame.

One historical occurrence to be remembered in the Mineral Spring section happened while Annable and his companions were engaged in lumbering activities at the head of Double Run in Sullivan County, when John Annable and Fred Shaffer, with George Johns, "fitting" for them, sawed 365 logs in one day which scaled 53,000 feet. This was more logs than any other crew were ever known to cut in one day in the history of lumbering along the Loyalsock.

The now famous "Whirl's End Park", on the Loyalsock Creek, was created largely through his keen foresight and desire that others be afforded the opportunities of outdoor life.

Possessed of a fine physique and a keen understanding of wildlife, there was scarcely a remote location in the Counties which Annable cruised where he could not locate bear, deer and grouse, as many who have had the pleasure to hunt and fish with him can attest.

It was a well known fact that persons hunting or fishing with Annable always had the best shooting or the choicest stretch of the creek to fly fish. It was his pleasure that his guests receive only the best when with him.

His passing leaves sorrow in the hearts of many men who were fortunate enough to enjoy his hospitable friendship and keen interest in wildlife and the outdoors. The sportsmen of this State have lost heavily.

QUAIL RESTORATION PROJECT

A state-wide quail restoration project, upon which \$24,253 will be expended this year, is the latest move of the Texas Game, Fish and Oyster Commission to aid in the restoration of the much-sought-after little birds in the Lone Star State.

The project is a cooperative affair with the Game Department providing 75 percent of the cost by the use of Pittman-Robertson federal funds and the landowners contributing 25 percent, much of which can be paid for in labor, but with the landowner receiving a small rental for the use of his land.

It is hoped to bring more than 100,000 acres under the project this year and twice that amount next year, the Executive Secretary said.

Tests made in various parts of the State by the Game Department have shown that quail can be increased as much as 400 to 500 percent. This is done by the planting of proper food for birds, much of it on what otherwise would be waste land, such as along and in gullies and on fence rows, and by providing some cover for quail.

Key areas are being selected in many counties and officials hope to be able to set up restoration areas in at least seventy-five counties and possibly 100 before the year is over. These areas will be from 500 to 4,000 acres in size and on each as many fenced shelters will be built as believed necessary to produce an appreciable increase in quail. These fenced areas will vary in size from one-tenth of an acre to an acre, and will be provided with pole or brush shelters to protect the birds. If food is the limiting factor in any area, an attempt will be made to encourage native plants, but they will be supplemented by domestic crops. The areas will act as incubators for many acres of land and it is expected the quail produced will spread into the surrounding countryside.

The project, under the direction of the Game Department's director of wildlife restoration, will cover a three-year period. The areas which will be leased will be closed to hunting for three years, but can then be opened at the discretion of the farmer or rancher.

Cooperation of the county agricultural agents, the county wildlife planning boards and other interested agencies are being sought by the Department's game managers, who will have charge of the projects in their respective areas.

Officials of the U. S. Bureau of Biological Survey, who have charge of Pittman-Robertson fund expenditures, through John C. Gatlin, Regional Director of Albuquerque, New Mexico, have hailed the Texas plan for quail restoration as the one most expected to succeed and announced it probably will be the type recommended to other states in the future.

Payment of a small rental to the landowner, as planned by the Game Department, was hailed as a step forward in farmer-sportsman cooperation and Biological Survey officials indicated it was the best possible way to interest farmers and ranchers in game restoration.

CURRENT TOPICS



Visitors at the State Farm Show could not get enough of the Game Commission's educational literature and Game Protectors Orr, left and Checklinski, right, were kept busy day and night answering questions and passing out bulletins.

SURVEY REPORTS PROGRESS

Operations under the Federal Aid to wildlife Restoration Act and the dedication of the first national wildlife experiment station at Patuxent, Md., constituted the two major programs of the Biological Survey last year, according to a recent report by Dr. Ira N. Gabrielson, Chief of the Survey. The Biological Survey also became a part of the Department of the Interior on July 1, last year in accordance with President Roosevelt's Reorganization Plan.

At the close of the first year of the Federal-aid program, 42 States had enacted the required legislation assenting to the program, one had a similar bill pending, and five remained ineligible, Dr. Gabrielson reported. "The wide variety of well-considered plans already submitted," he declared, "attests the earnest desire of State conservation authorities to advance the cause of wildlife restoration effectively."

Under the Federal Aid Act, Congress may authorize operating appropriations not to exceed the annual revenue from the 10-percent tax on sporting arms and ammunition. The initial appropriation to the Bureau was \$1,000,000 to which was added about \$300,000 from State funds. This year \$1,500,000 was appropriated by Congress.

Dr. Gabrielson reported an increase of 12 refuges and of nearly two million acres in the nation-wide system of national wildlife refuges, bringing the total under the jurisdiction of the Biological Survey to 260 with an acreage of more than 13½ million. An average of 32 full-strength C. C. C. camps and one side camp was used in water impoundment and other construction work on 32 of these areas in 24 States.

"Attracted by the improved habitat provided, waterfowl and other migratory birds, as well as resident species, are visiting these sanctuaries in ever increasing numbers," the Survey chief said. He added that on many units species long absent or previously un-

known there are becoming established as part of the nesting population.

Discussing the importance of the Patuxent Research Refuge, which was dedicated by Secretary Wallace on June 3, Dr. Gabrielson said the area is significant in its promise of future improvements in wildlife management practices. He described the refuge as an extensive tract, close to the seat of Government, containing forests, streams, and ponds on which qualified biologists can study wildlife and its needs through all seasons of the year.

Other highlights of Dr. Gabrielson's report include:

The results of studies of the food habits of North American diving ducks and of the principal foods of shoal-water and diving ducks generally, including identification, range, and propagation of the various plants, were published in two technical bulletins.

Preliminary aerial surveys in northern Canada located a waterfowl-breeding ground of the first magnitude extending about 70 miles along the Arctic coast and back into a region rarely visited by white men.

Large-scale vaccination on fur farms and other methods of immunization, notably against distemper, proved of protective and financial value.

Predator-waterfowl relationships studied on national wildlife refuges disclosed the average nesting success to be 60 percent, with most of the losses caused, in about the order of depredation importance, by skunks, bull snakes, crows, magpies, coyotes, and snapping turtles.

Other wildlife studies revealed that nearly 500,000 game and other birds were banded, bringing the grand total of banded birds to more than 3¼ million, from which more than 200,000 return and recovery records are available for study. Almost 6 million big-game animals were reported in the second

Nation-wide big-game inventory conducted by the Survey. The food habits of coyotes are in the main economically beneficial or harmless, since more than 75 percent of their feeding is on rodents and carrion.

Further protection of domestic livestock, poultry, and game resulted from the taking of 104,000 predatory animals in cooperative campaigns. Under Biological Survey supervision, nearly 35½ million acres of rodent-infested areas were treated to protect agricultural and grazing lands.

Law-enforcement work was greatly facilitated when Congress provided funds for undercover operations to prevent illegal game dealing. A joint aerial patrol along the International boundary was made by wildlife agents of the Alaska Game Commission and Provincial police officers of Canada and was responsible for smashing a well-organized ring of smugglers.

That any wild bird living more than 10 years is an old one is indicated by the bird-banding records of the Bureau of Biological Survey, United States Department of the Interior. In fact, when individuals of some species of small birds are more than 6 years old they are generally thought to have lived longer than most of their feathered relatives.

Recently the Survey received information that a 14-year-old herring gull had been found dead near Manistique, Mich., on September 27. The bird had been banded as a juvenile in July 1925, at St. James, Mich.

This record is among the few received recently of birds whose life span was more than a decade.

Twenty-one years is the greatest longevity record thus far recorded for any bird in the banding files. An osprey banded at Gardiner's Island, N. Y., in June 1914 was found dead at the same place in June 1935. One of the oldest birds recorded in the past few years was a 17-year-old Louisiana heron, which was banded at Avery Island, La., in August 1920 and retrapped at the same place in January 1937. No information about this bird has been received since that time, so whether the aged heron still wings its way over the Louisiana bayous is not known.

Some 14-year-old birds noted since 1937 include a purple grackle banded at Paoli, Pa., in 1924 and found dead at Upper Darby, Pa., in 1938; a mallard tagged near Peruque, Mo., in 1923 and shot in Saskatchewan in 1937; a red-tailed hawk banded in Saskatchewan in 1924 and killed at Ethel, La., in 1938; and a crow banded in Manitoba in 1924 and killed at Sherman, S. Dak., in 1938.

New York for 1939 reports 14,511 deer killed, 20% increase over 1938, due to opening six more southern tier counties.

In 1939, twenty-four New York hunters lost licenses for one month to ten years for accidents.

CURRENT TOPICS

NOTES ON FEDERATION MEETING

INTERESTING discussions were heard and numerous worthwhile resolutions were adopted on Monday, February 12, by one of the largest delegations of sportsmen which ever attended an annual meeting of the Pennsylvania Federation of Sportsmen's Clubs.

Principal among the resolutions approved were those recommending a 50-cent increase in the fishing license fee to acquire and develop public fishing waters and a proposed expenditure of \$100,000 from the Fish Fund to fight stream pollution.

The Federation reelected its three officers, namely, John C. Youngman, Williamsport, President; M. C. Merritts, Altoona, Vice-President; and Dr. C. A. Mortimer, Wilkes-Barre, Secretary-Treasurer.

Speakers and committee chairmen addressing the conference during the morning session included Miss Lois Clark, of the Department of Public Instruction, who outlined the need for conservation education, particularly in the elementary schools, and who said that her department is willing to work hand in hand with the sportsmen in helping to conduct such a worthwhile program.

Robert Steventon, Chairman of the Committee on Conservation Education, rendered a very excellent report on the efforts of that committee to stimulate interest in the subject. He, too, said that the Department of Public Instruction had offered to cooperate in the movement. A resolution of the committee recommended that a course in conservation education be inaugurated in all State Teachers' Colleges, and that the Department of Public Instruction be asked to appoint someone in that department to correlate the educational facilities of the various conservation agencies of the Commonwealth and to put the material furnished in proper form for the use of teachers.

Ross L. Leffler, President of the Game Commission, and C. A. French, Commissioner of Fisheries, each spoke briefly, thanking the Federation for its splendid cooperation last year and assuring the assembled sportsmen of the continued support of their respective departments.

S. V. Sedlak, President of the State Trappers Association, asked the Federation to support a five-point program recommended by his association, including among other things a special fur license, the revenue therefrom to be set aside in a specially earmarked fur fund to be used for properly managing fur-bearing animals. The program also calls for restriction in the payment of bounties to the season when furs are prime.

Hon. John M. Phillips, former President of the Game Commission, and Clyde King, of Apollo, gave an interesting account of the starling and the menace it has become to native song and insectivorous birds as a result of its increasing numbers.

Herbert Watts, Chairman of the Committee on the Pittman-Robertson Federal-Aid-in-Wildlife Program in Pennsylvania, outlined the programs now being carried on, and praised the cooperative research station at

State College sponsored jointly by the Biological Survey, the Game Commission, and State College.

President Youngman read a report from a special committee concerning the registration of dogs, and M. C. Merritts, Vice-President and Chairman of the Administration Committee, submitted a proposed revision of the constitution and by-laws.

Game resolutions adopted were as follows:

1. Asking the Commission to continue its study of all hunting accidents to determine the cause thereof, and to continue its educational campaign to reduce them.
2. Recommending that the County number be placed on all license plates.
3. A more extensive use of hunting license revocations by the Fish and Game Commissions in order to curb violations.
4. That the Commission continue its study of the hunters' license report to determine whether or not space can be included thereon to list the kill in each county.
5. That the Legislature add \$25.00 in penalty and an extra two years revocation of license for hunting while intoxicated.
6. Recommending that the Commission make a further study of the beaver because of its benefit to streams during low water periods.
7. Concurring in the resolution of the Southern Division recommending the season on wild turkey be closed every other year, and during the open year the season to be limited to one week.
8. Asking the Commission to reduce the daily bag limit to one raccoon and not specify any season bag limit.
9. Recommending the removal of the Red-tailed Hawk from list of protected birds, and that all hawks, except the Sparrow Hawk, be placed on the unprotected list.
10. Recommending that the Commission continue the bounty on Goshawks throughout the year.
11. Increase the bounty on weasels to \$1.00.
12. Place a \$2.00 bounty on the red fox.
13. Asking the Game Commission to place a \$2.00 bounty on great horned owls and \$1.00 each on fledglings.
14. Concurring in a recommendation of the Southwestern Division asking the Commission to establish a seasonal limit of fifteen on groundhogs and reducing the daily limit from four to two.
15. Asking the Game Commission to plant more food and cover on farms.

16. Recommending that the bear and squirrel seasons be the same as in 1939.
17. Return to the policy of opening the deer season on the Monday closest to December 1 (instead of December 1, regardless of the day of week).
18. Prohibit raccoon hunting between 7 a. m. and 5 p. m.
19. Make charges reciprocal with other states for non-resident hunting licenses.
20. Ask the Department of Revenue to issue non-resident hunting licenses to all agents at the same time resident licenses are sent out.
21. Issue hunting and fishing licenses on the basis of permanent registration, like automobile licenses, and shift the work from the Department of Revenue to the Game and Fish Commissions.
22. Asking the Governor, the Personnel Board, and the Game Commission to grant the annual increases in wages for Game Protectors as heretofore set up.
23. That the Commission provide more protection for small game 60 days before the opening of the season.
24. That the present regulations requiring a single ball for killing deer and bears not be changed in favor of the use of buck shot.

Miscellaneous Resolutions

1. Agreeing that no charges against the members of the Game or Fish Commissions, or their personnel shall be considered by the Federation unless supported by affidavit.
 2. Asking the Governor to fill existing vacancies on the Fish and Game Commissions.
 3. Recommending that Pennsylvania Congressmen endeavor to have the full amount of the Pittman-Robertson fund appropriated.
 4. Opposing all State and National legislation restricting the use of firearms.
 5. Recommending that there be no consolidation of the Game and Fish Commissions and the Department of Forests and Waters.
 6. Recommending support of the Mundt Anti-Pollution Bill.
 7. Opposing pollution bills which provide for investigation and study but which contain no enforcement provisions.
 8. A resolution calling the Governor's attention to a lack of cooperation on the part of the Sanitary Water Board.
 9. Asking the Federal Department of the Interior to call on Congress for \$50,000 to complete a federal fish hatchery in Pennsylvania.
 10. Protest to Dr. John J. Shaw, Secretary of Health, against the Sunbury Printing and Dyeing Works for not attempting to arrest their pollution and requesting that they take care of the waste properly.
 11. Requesting the Fish and Game Commissions for a detailed annual statement of expenditures.
- This report does not include numerous other resolutions making recommendations relative to fish law changes or for the attention of the Fish Commission only.



Five tons of wildlife food. N. Y. A. Boys loading apple "pummies" on truck furnished by Andy Herbster, Laurelton.



HOLD LARGE MEETING

The attendance of 793 sportsmen and sportswomen at the annual banquet of the Sayre Sportsmen's Club, held January 18, in the Gymnasium of the Sayre High School, broke all previous records for this event by at least 150 persons. It was not only the largest banquet ever held by this association but was one of the largest gatherings of this kind ever held in the State.

The dinner was capably served by members of the high school parent-teachers association under the supervision of Mrs. Vern Hicks, president of the P.T.A., and wife of Vern Hicks who was re-elected president of the club for the year 1940.

Honorable C. A. French, Commissioner of Fisheries, was the principal speaker. He told the members and their friends how, because streams had become dangerously low last fall, the restocking program had to be curtailed, but that the program would be renewed in the Spring. Mr. French also presented some motion pictures on fishing in Pennsylvania.

The banquet was concluded by the awarding of many prizes among which was one for the member obtaining most new memberships during the campaign. Mr. Ryan, Chairman of the membership committee stated that the Sayre Club now boasts of about 1000 members.

The Pennsylvania Ranger Patrol is the name of a new organization formed for the purpose of furthering wildlife conservation in the Commonwealth. It is a Chapter of the Open Road Pioneers' Club, and its object is to make better, healthier and happier citizens by providing a program which will give each member a better understanding of nature and a love for outdoor life. The Rangers will wear uniforms similar to those of Forest Rangers, as well as a badge of authority, and will endeavor at all times to assist Game Protectors and Fish Wardens in curbing violations, feeding and protecting wildlife, and preventing forest fires. The Chief Commander of this new organization is Clifton Yockey, 5950 Springfield Avenue, Philadelphia.

HE DID AND HE DIDN'T

The saga of McAllister reached an illogical end, which is just about what you could expect.

Nimrod Ward McAllister, whose bear hunting expedition was exciting enough to make wires of the press associations, ended the season in much the same way he started—puzzled.

Ward, you may recall shot two bears, didn't get either of them but did have the honor of paying the State of Pennsylvania a \$25 fine. The first bear he shot was claimed by another, the second one didn't have any teeth and was claimed by a game protector.

McAllister, undaunted, went deer hunting as the season drew to an end. Finally, after hiking across several mountains and being out five days he hit the trail of a deer.

He followed it for hours and arrived just in time to see someone else shoot it. Deciding he might as well look at the game he didn't get, Ward shouted and was surprised to see the other party take to his heels.

Walking down he discovered that it had no rack—whereupon, remembering the fate of most innocent bystanders, he also departed due east.

That night, however, he called the game protector and was given orders to go out into the country and bring it in. He did and the protector inspected it, proclaimed it a legal kill, saying it had lost its rack, and gave it to McAllister.

He shot two bears and didn't get them. He didn't shoot a deer and got a buck. This is getting complicated.—Vandergrift News.

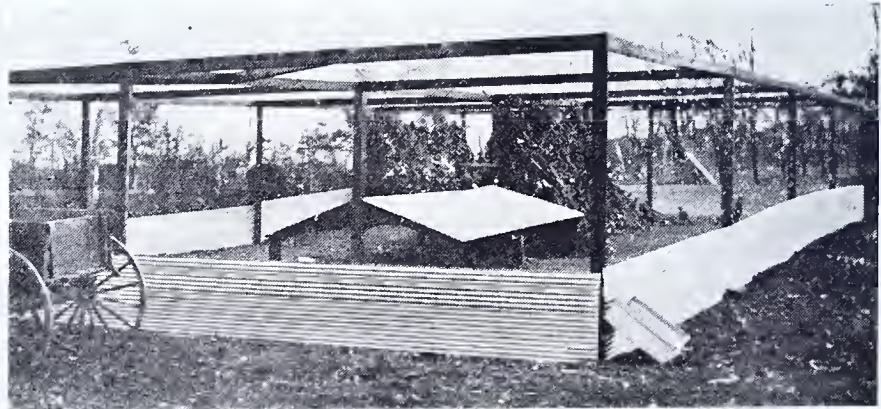
The Schuylkill Archers of Pottsville have just made final completions of their match with Burwood, Australia. The match was proposed by the Burwood group in a letter of September 15 and was agreed upon in a return letter by the Schuylkill Archers to be shot on October 29. The return scores from Australia were received in Pottsville on January 2, thereby concluding the match. The match was won by the Australian Archers by a margin of 20 points, the total scores being 4872 to 4852.

BOY SCOUTS ACTIVE

Boy Scout Troop No. 13 of the First Christian Church of Ellwood City, under the leadership of Scoutmaster Charles L. Follette, was a great help to local sportsmen last year. These boys posted many signs, extinguished several forest fires, and helped distribute fish and game. They also instigated a bird house contest and erected the houses which they built in public places. They visited sportsmen's clubs and gave demonstrations on how to properly erect feeding stations and distribute feed. The troop erected 45 bird feeding stations during 1939 and serviced them each week. So far this year they have erected 70 feeding stations. They also have agreements signed with two local farmers to help plant 10,000 trees this Spring.—Clarence G. Scott, Deputy Game Protector.

ANNUAL SPRING TRIALS

Saturday and Sunday, March 23 and 24, fair weather or bad, will witness the eighth renewal of the Annual Spring Trials of the Keystone Setter and Pointer Club, of Reading, Pa. This well-known field trial club will endeavor again to prove the hospitality for which Berks County is noted. There will be horses to ride, and refreshments will be served on the trial grounds "Sports Acres" located near West Leesport. There will be Open All-Age and Open Shooting Dog stakes. Trophies will be awarded the first three places in each event. Trials will be held on liberated ringneck pheasants. All entries must be in the hands of the club secretary, Mr. J. Elwood Hollenbach, 837 Penn Avenue, Wyomissing, Pa., prior to the drawings for respective events. Drawings will be held at the Berkshire Hotel, Reading, the night before respective trials, namely, Friday evening, March 22 for the Open Puppy and Open Shooting Dog, and Saturday evening, March 23, for the Open All-Age. Dr. Sherman Ames, prominent sportsman and bird dog authority of Easton has most graciously accepted the invitation to judge the trials.—R. Clyde Buck, Reading.



Ringneck pen constructed by the Grier City Rod and Gun Club. The club is 8 years old, extremely active, and was one of the first groups to join the Schuylkill County Association.

WITH THE CLUBS



Photo by Frank H. Young

Left, Elk County Sportsmen feeding game. Center, Tom Sheffler, of Imperial, at feeding shelter. Right, corn raised for game by Truxall Sportsmen's Club. In addition 68 bu. were left on the stalk. The Truxall Club planted an acre to the Game Commission's food mixture last year, raised and liberated 45 ringnecks, and established a special wildlife refuge project.

Pennsylvania State Archery Notes

E. Hill Turnock, State Archery Champion, was also high man at the Championship Shoot of the Pittsburgh Archery Club September 16 and 17 and the Field Shoot on October 8. Mr. Turnock shot a score of 311 hits for 1929 in the York and Double American. In second rank is Mr. D. R. Cochran, with 290 hits for 1746; and third, our club president, Mr. Chester A. Smith, with 291 hits for 1679.

Class A winner is Mr. Walter D. Perry, with 286 hits for 1678. Class B was won by Mr. Kaiser Wilhelm, with 261 hits for 1395; and Class C was taken, after terrific struggle, by Al Dorfield, with 216 hits for 986.

The Clout Champion is Mr. Walter D. Perry, with 30 hits for 122; and the Flight Champion is Mr. J. Milnor Roberts, who shot 334 yds., 1 ft., 8 inches.

The Ladies' Champion is Mrs. Walter D. Perry, with the winning score of 273 hits for 1619, in a Double National and Double Columbia. In second place is Miss Rosemary Novak, with 264 hits for 1508; and third place was taken by Mrs. Charles Code, with 263 hits for 1441.

The Class A Champion is Mrs. John Gowans, with 244 hits for 1316. Class B was won by Miss Frankie Manown, with 196 hits

for 1025; while Mrs. Chester A. Smith cinched Class C, with 189 hits for 869.

The Ladies' Clout Champion is Mrs. Charles Code, with 36 hits for 206; and Mrs. Dick Lundell won the Flight Championship with a shot of 254 yards, 2 ft. 1 in.

The Junior Champion is Miss Eleanor Ransone, with 166 hits for 653, shooting three Junior American Rounds.

Records show that 726 men and women competed in Pennsylvania archery tournaments last year. Of this number 556 were men and 170 women. Of the total 573 were Pennsylvania residents; the remaining 153 coming from Washington, D. C., Maryland, Delaware, New Jersey, New York, Ohio, Connecticut, Minnesota and Illinois.

How to raise money for your Archery Club was solved by the Red Lion Archers when they rented a concession stand at the local fair. The venture proved successful and the club is now the proud owner of five regulation size targets and stands and a small house 8 ft. x 8 ft. that is used as a supply house and refreshment stand. Emblems for sweaters and Robin Hood hats have also been purchased.

HUNDREDS AT FIRST ANNUAL DINNER

"Hundreds of Lancaster County sportsmen, representing twenty associations, attended the first annual dinner of the County Federation on January 31. The work of the Federation was praised by Seth Gordon and Charles French, executives of the Game and Fish Commissions, who were the principal speakers. Mayor D. E. Carey, delivered the welcoming address and C. Allan Wiker, President of the Federation and chairman for the banquet, acted as Toastmaster.

"Chairmen of the committees were: Ways and Means, Elmer Bomberger, Lititz Sportsmen's Association; Entertainment, Harry Harsh, Mill Creek Sportsmen's Association; Finance, Clayton B. Shenk, Lancaster Archery Club; Publicity, J. Earl Way, Hampfield Farmers' and Sportsmen's Association.

Sportsmen's associations which were represented were: Akron, Columbia, Eastern Lancaster County, Fair Play, Hempfield, Lancaster County Archers, Lancaster County Coon, Lancaster County Fish & Game, Lancaster County Sportsmen, Lititz, Manheim, Mastersonville, Mill Creek, Mt. Joy, Northeastern Lancaster County, Tri-County Fox Hunters, Paradise, Southern Lancaster County, Strasburg, and West Earl.

Due to the great success of the first affair officials have definitely decided to make it an annual event."—J. Earl Way, Director of Publicity, Lancaster County Federation.



The editor found these pictures on his desk one morning but there was no note attached to indicate where they came from. After holding them for some time it was decided to publish them in the hope of locating the owner. They are fine pictures.

WITH THE CLUBS

HOLD LARGE FIELD TRIALS

The initial trials of the Hochwalt Memorial Amateur Field Trial Club were run on the club grounds near Mount Pleasant, Pa., on October 14th and 15th and, looked at from any angle, were a great credit to the club members and to the beloved gentlemen whose memory they honored.

In the last few years, since the running of Field Trials on Sunday was legalized in Pennsylvania, there have been many more trials held in this district than there are Sundays in the Field Trial season and it seems that this club has hit on one answer to the situation by giving the amateur owner who wants to handle his own dog a chance to show his stuff without professional competition. It also proved that a strictly amateur trial can be a success. On the same week-end there were two other Trials in this district, yet this Trial had an entry of fifty-four dogs of a class that would compare favorably with any Trial the writer saw last year.

The Trial was capably managed by the genial Secretary, Lloyd C. Kountz, and his committee. Owing to the building of the new super-highway, it was necessary to change the grounds but the new grounds were good and gave a big going dog plenty of room to show his stuff.

Four stakes were run—the Puppy Stake, Shooting Dog, Derby and Open All Age Stakes. J. L. Vogel, of Leechburg, and the writer judged all four stakes.

Puppy Dog Stake

This Stake brought out an entry of eleven setters and one pointer and they were a very classy lot of pups. First place went to Greene County Bob, owned and handled by James Miller, Mather, Pa., a wide-going, hard hunting fellow with lots of style and a smooth way of going.

Crowding him close was Whitby's Peerless Pal, taking second place. These two good setters might well trade places any time.

Sally, the third place winner, had all the style and hard hunting ability of the first and second place dogs, but was a little restricted in range.

Back of the winners a little setter called "Red" ran a big heat but spoiled his chances by trailing at times, and Eugene's Peerless Dusty threw himself out of frequent back casting to his handler.

Summary: Puppy Stake, Oct. 14, 1939

Judges—J. L. Vogel and Colin M. Reed. 11 English Setters and 1 Pointer.

First—Greene County Bob, Unregistered setter dog, James Miller, owner and handler, Mather, Pa.

Second—Whitby's Peerless Pal, Unregistered setter dog, Robert Whitby, owner and handler, Uniontown, Pa.

Third—Sally, Unregistered setter bitch, T. F. Gwynn, owner and handler, Jefferson, Pa.

Other unplaced dogs running in the Puppy Stake were Pilot's Village Sue, O'Hara's Kit, Red, Eugene's Peerless Dusty, Mary, Equity's Princess Nugym, Equabeau, War Scare and Eugene's Peerless Rusty.

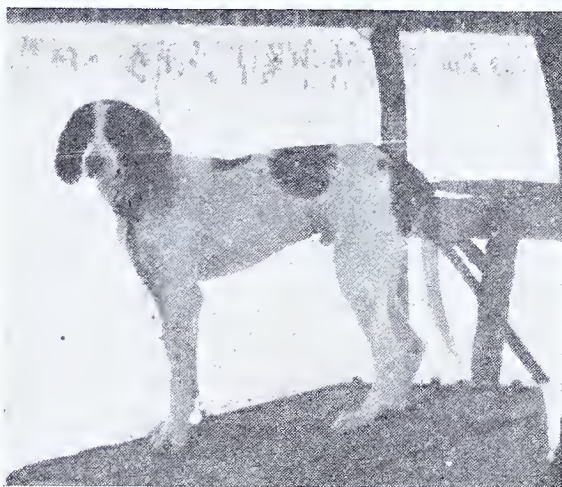
Shooting Dog Stake

Seventeen entries faced the Judges in this stake, first place going to San Faylo Lady,

who ran a classy, stylish heat and topped it off with two finds, perfectly handled.

Second went to Joy Gay Girl, another setter with a good class heat and one find on a native bird which she handled in good style.

A pointer, Gaysport Lemon Lady, accounted for third place and back of her were sev-



Above: Black and white coon hound lost Dec. 7 in northeastern Chester County, near Honeybrook and Cupola. Steady tree harker with odd howling voice on trail. Owner's name and address on collar, also several Chester County licenses.—Notify Malcom F. Jeffries, 234 Stuart Ave., Downingtown, Pa.

STOLEN—From the Deer farm near Wexford, Pa., November 1939, a Registered 13 in. Beagle bitch, black, white and tan. Blind in one eye. Information regarding this dog would be appreciated by Hugh A. Millar, 155 Highland Avenue, West View, Pa.

STOLEN—A Marlin Model 36—Full Mag. Carbine—32 Special—No. 9579—taken from the Gun Case of Smith's Garden Shop, Warren, Pa. Please notify them concerning any information as to the whereabouts of the gun.

LOST OR STOLEN—Two small female beagles 7 months old in vicinity of State Fish Hatchery, Reynoldsville; color black, white and tan. Also a 3-year-old female, black, white and tan, with hole in right ear. Reward. Notify M. J. Smith, New Paris. Information confidential.

eral who ran good heats but either flushed or chased their birds.

Summary: Shooting Dog Stake, Oct. 14, 1939

Judges, J. L. Vogel and Colin Reed. 16 English Setters, 3 Pointers and 1 Gordon Setter.

First—San Faylo Lady, 272651 English Setter Bitch, L. L. Getty, owner and handler, Saxonburg, Pa.

Second—Joy Gay Girl, Unregistered Setter Bitch, John Seward, owner, Coal Valley, Pa. Homer Casperson, handler.

Third—Gaysport Lemon Lady, 280627, Pointer Bitch, H. L. Horner, owner and handler, Stoystown, Pa.

Other unplaced dogs running in the Shooting Dog Stake were Webber's Walley, Big Ring's Ginger, Flasy Ritz, Cap's Dixie, Mutt's Jeff, Amos, Danger's Trump, Merry Mike, Keyhole Pecker, Buzzy, Super X Bill, Highfield Spotted Lady, Dr. Brickley's Flush, Old Meadow Major, Hi Duke, Florendale Lou's Peggie, and Duraloy.

Derby Stake

This Stake made up in class what it lacked in numbers. Equity's Citation placed first. This little setter ran all over the country, paying very little attention to his handler, but he managed to stay within sight of the judges, hunted hard all the time and had one point chasing when bird was flushed.

Second—Phoic Peggy Joyeuse ran a big, wide heat with a world of style and finished strong. She handled more kindly than the first place dog and had she had a find might well have gone higher.

Third went to Rube's Dangerous Lady, with a good stylish hunting heat, but not so wide or fast as the two placed above her.

Summary: Derby Stake, Oct. 15, 1939

Judges, J. L. Vogel and Colin M. Reed. 5 English Setters, 3 Pointers.

First—Equity's Citation, 276711 English Setter Bitch, Chas. H. Clayton, owner, Waynesburg, Pa. T. F. Gwynn, handler.

Second—Phoic Peggy Joyeuse, 286200, Pointer Bitch, W. T. Gibson, owner and handler, Bridgeville, Pa.

Third—Rube's Dangerous Lady, 283531, English Setter Bitch, J. H. Barnes, owner and handler, Connellsville, Pa.

Other unplaced dogs running in the Derby Stake were Klem, Sonteway Peerbeau, Wilkinsburg Dick, Shotslone Eagle, and Hightone Tony's Antonio.

All Age Stake

Village Lassie, the winner of this stake, ran a beautiful ground heat, covering the whole course in a stylish, pleasing manner, and finished strong. Just before being ordered up, she snapped into a point on a crippled bird which her handler could not flush, but which was seen running by both the judges and gallery. Her handler shot and she was steady.

Tom's Lady Gwynn earned her second place with two pieces of perfect bird work and a fairly wide, stylish ground heat.

Third went to Rackateer Beau, who ran a hard hunting, stylish heat, lacking in range, but topped off with a find on which he was steady to shot and wing.

Back of the winners, big heats were run by Buzzy and Duraloy Boy, setter and pointer, but Buzzy got lost in the woods and could not be brought back on the course, while Duraloy Boy went to the gallery near the finish of his heat and did not finish. The Irish Setter entry, Diana Joffre, also ran a good heat, but flushed and chased two birds.

Summary: All Age Stake, Oct. 15, 1939

Judges, J. L. Vogel and Colin M. Reed. 10 English Setters, 3 Pointers, 1 Irish Setter.

First—Village Lassie, 266399, Pointer Bitch, D. M. Higginbotham, owner and handler, Uniontown, Pa.

Second—Tom's Lady Gwynn, 252434, English Setter Bitch, T. F. Gwynn, owner and handler, Jefferson, Pa.

Third—Rackateer Beau, Unregistered, English Setter Dog, Lawrence Cignetti, Jr., owner and handler, Apollo, Pa.

Other unplaced dogs running in the All Age Stake were Su-Lin, Duraloy Boy, Lem Hunter, Buzzy, Inspector Tony Boy, Travel Air, Dan Bo, Pine Raven Duke, Diana Joffre, Wilmore's Major and Blue Beau's Sally.—Submitted by Colin Reed.

PENNSYLVANIA'S DEER PROBLEM

« « « By R. L. WATTS

Editor's Note: R. L. Watts, more familiarly known by many as Dean of the School of Agriculture at Penn State, which office he held for a great many years, was also chairman of the Conservation Council which at one time played the important role in sportsmen's affairs now filled by the Federation of Sportsmen's Clubs.

AT the end of the second day of the open deer season we watched with keen interest several groups of hunters filing down a trail from the deep forests of Potter County to their automobiles which had been parked on a road leading to the state highway. The procession was quite different from the one which we observed on the same trail about eight years ago. Then the bloody trail and the hilarious spirit of the nimrods testified to a very large kill of bucks. At the end of the second day this year not a hair, or a drop of blood, or a hunter's report gave evidence of a deer having been killed in this region.

There were four persons in our party and we camped in a cabin located in one of the most inaccessible sections of the county. During two days all of us saw only ten deer and two grouse; while ten years ago it was common for a person to see a dozen or more deer and as many grouse in one day.

A period of eight years is a very short time for such marked reductions to occur in the game population anywhere, and naturally hunters as well as landowners are interested in knowing the cause, which is as clear as daylight.

Following the extensive timber operations, 30 to 40 years ago, there was an exceedingly heavy growth of young trees, shrubs, blackberries, raspberries, grapevines, etc., which provided food in abundance and also the most thorough protection for small game from predators. Under such favorable conditions the grouse population increased with amazing rapidity, and after the deer had really gained a foothold their reproduction was equally marked.

At that time we thought this inaccessible area would support a

large number of deer indefinitely and that it would always be a happy hunting ground. Then came the severe winter of 1936 when hundreds, if not thousands, of deer died of malnutrition or starvation. Speaking in animal husbandry terms, their feed lots had been depleted and then nature took its course.

This particular region, and there are many similar ones in Pennsylvania, has suffered irreparably from an excessive population of deer. The small number of deer now in these sections is due wholly to overbrowsing. Though the number today is very small, it is too large for the food available, for the animals range over a very extensive area and new vegetation doesn't have a ghost of a chance. During two days in this territory we didn't see a young seedling pine or hemlock. And it should be noted that overbrowsing invariably is accompanied by a marked decline in the number of grouse.

It is most unfortunate that the deer-slayers in adequate number didn't hunt this and similar areas years ago and thus prevent nothing less than a catastrophe to both the forest and the game. Attention is called to the splendid deer and grouse hunting which may be found just a few miles from the area mentioned, which is easily accessible and where annual kills have maintained a satisfactory balance between deer and forest.

I have written this article because many sportsmen, as well as landowners, do not fully appreciate the seriousness of the deer problem. It is a matter of vital importance to both forestry and game, even in relatively small wooded areas, where the deer prevent development of young timber and vegetation essential to wildlife.

What is needed is a better distribution of hunters, which is difficult to accomplish, and a better understanding of our people concerning the whole deer problem in relation to the proper use of forest areas.—From Pennsylvania Farmer, Jan. 1, 1940.

I TRAP NO MORE WEASELS



I prefer a weasel to a horde of filthy, destructive vermin.

(Continued from Page 6)

landed, the pursuer leaping directly upon him from a height of about fifteen feet.

For weasel bait, there is nothing better than a dead mouse tied to the trap, and I even made a catch some years ago by tying a string to a mouse and dropping it into a weasel's den, then pulling it out and dragging its body over a steel trap. Scarcely had I turned away when I heard the trap snap and the weasel squeal.

Here on the edge of the farming country, with mice and rats always ready to eat all of us out of house and home, bounty or no bounty, I trap no more weasels except by mistake. The last doubter who went with me on a hike in the snow was cured too when he saw where a weasel went into a rats' burrow near a boy scout camp and routed out five of the vermin, one of which it chased

like a dog, full speed, into a stone wall. But no tracks led out of this retreat!

My experience has been that there can never be many weasels in any locality because of their quarrelsome nature after reaching maturity and their willingness to move on. Therefore, there will never be any concentration of these little predators that might be particularly dangerous to game or poultry. Likewise, one of these insatiable hunters is about all that the ordinary vermin population in any district can support. When the pernicious rodents get scarce, the hungry killer travels to a land of plenty and starts his good work there. A weasel in any neighborhood is a very sure sign that the rat or mouse population is magnificent! And even if he does err occasionally in spring time, I still prefer a weasel to a horde of filthy, destructive vermin about the place.



I trap no more weasels except by mistake.

Wildlife and the A. A. A. Program

AS was pointed out in an article in the May 1939 issue of the Game News, the Agricultural Adjustment Administration pays benefits to farmers for carrying on certain soil conserving and soil building practices. Many of these practices for which farmers are being paid benefits are helpful to wildlife.

Under the 1939 program of the Agricultural Adjustment Administration the soil conserving and soil building practices which are beneficial to wildlife and for which farmers were paid benefits under certain regulations included the following:

1. The planting of trees and shrubs. These provide both food and cover for many kinds of wildlife, including song and insectivorous birds.
2. Excluding livestock from at least part of the farm woodlots. This gives briars a chance to grow, and other ground growth needed as food and cover.
3. Seeding of legumes and grasses. This provides both food and cover.
4. Improvement of depleted pastures by re-seeding. This improves nesting grounds and increases food and cover for wildlife.
5. Growing and not pasturing cover crops. This provides additional food and cover.
6. Strip cropping. This provides ideal nesting grounds for wildlife in and near food, and gives them protected lanes in which to move from one place to another.
7. Proper seeding of terrace outlets. This provides both food and cover for wildlife.

The 1940 A. A. A. program which is now being worked up includes benefit payments for the practices which were carried on last year and in addition the Game Commission has been able to have the State A. A. A. Committee include payment for a practice which will be of even more direct value to wildlife than are the ones mentioned above.

Practice No. 2 provides for payment at the rate of \$7.50 per acre for the planting or transplanting of shrubs helpful to wildlife.

It is believed that the program offers considerable value to the sportsmen of the State by increasing the supply of natural food and cover for all species of wildlife wherever advantage is taken of the practices previously



Cover along gullies and stream banks prevents the spread of soil erosion and provides cover for wildlife.

mentioned. It is to be hoped, therefore, that all organizations will help by encouraging farmers to take advantage of it. Members of sportsmen's organizations would assist in creating a better farmer-sportsmen relationship if they would assist the farmer in procuring and planting, or in transplanting the necessary shrubs mentioned in practice No. 2. The help of various boys clubs such as the Boy Scouts, 4-H Clubs, and the F.F.A. might also be enlisted to help carry on the work in the interests of wildlife.

In most cases it will not be necessary for the farmer to purchase seedlings for planting. Many farmers have hawthorns, dogwood, greenbrier, wild grape, and other game food producing shrubs in fields where they would be destroyed by plowing, or from which the farmer wishes them removed. Such plants, instead of being destroyed, can be transferred to fence rows, ditch banks, gullies, and other permanent locations, and for which the farmer will receive payment if he has indicated his desire to participate in the program with his local A. A. A. Committee.

Helpful information relative to the kinds of shrubs which are beneficial to wildlife can be received from the Game Protector, or from Bulletin No. 11 (page 10), a copy of

which can be secured upon request to the Game Commission, Harrisburg.

A new edition of Bulletin No. 16, "Wildlife in the Farm Program", has recently been received and a copy of this Bulletin likewise will be sent upon request.

Anyone wishing a copy of the 1940 pamphlet listing the practices for which payments are made should write to the Game Commission, or the Agricultural Adjustment Administration, 140 South Second Street, Harrisburg, Pa.

The practices for which benefit payments are made, and which indirectly help wildlife, are as a rule soil building or soil erosion control measures. Payment is made for these practices and not necessarily for the benefits to game which also result. The important fact which is indicated by these payments is that proper farm management quite often also means better wildlife environment.

If you are a member of a sportsmen's organization, or a hunter or an admirer of wildlife, and have a friend or a relative residing on a farm, here is your chance to do the farmer a favor and give wildlife a boost by telling the farmer about this plan, and then if necessary help him with the planting or transplanting.

THE MAIL BAG

Editor's Note: Here is a note from a Pennsylvania Senator who practices what he preaches.

"I like the picture on the front page of the January number of the Pennsylvania Game News—rabbits looking through flakes of snow at ears of corn hung up for them.

"Certainly now is the time to help rabbits and other game through the winter. Since the cold weather began, I have placed five bushels of corn and two bushels of wheat in the woods and other places to help the game, on my farm of 140 acres, through the winter.

"I am more than an average good friend of rabbits on my farm. I feed them corn not only in the woods but also on the front porch of my residence. It is a heartsome sight to look out of the window at night and see half a dozen rabbits munching corn on the front porch. Often I turn a flash light on a rabbit

not six feet from the window. This does not scare them, so friendly have they become.

"My lawn looks, these snowy days, as if a flock of sheep had roamed over it—the snow all beaten down by rabbits that come to the front porch to eat ears of corn. They certainly strip the cobs clean.

"It is almost unbelievable how tame wild rabbits will become if fed regularly and not disturbed by dogs and cats. Last spring one mother rabbit nested her brood right against the south wall of my residence; another against the north wall; and two under a hydrangea bush not ten feet from the front porch. Twenty-four rabbits were reared in these nests. They lived around the house and barn all last summer. Often one or more would go into the cow stable when the hired man was milking.

"Of course, I do not shoot such friendly rabbits—to do so would be like shooting an old friend. What rabbit hunting I do, I do in the woods.

"Of course, too, I put wire mesh around my garden and flower beds, so that the animals do no harm. And thus, rabbits and all our family live in peace.

"Nearly all wildlife loves to dwell near man when man is friendly. Beautiful, noble gray squirrels almost make headquarters in my wash house, the reason being that in the winter time I have an iron barrel there with black walnuts in it and remove the lid every few days and lay out several dozen walnuts. Also the yellow perch, bass and catfish in my four fish ponds come when I call them, making the surface of the water ripple and splash and will eat out of my hand."—Hon. C. Hale Sipe, Freeport, Pa.

SPECIAL WILDLIFE REFUGE PROGRAM

THE new Section (937) which was added to the Pennsylvania Game Law by an Act of the Legislature approved June 24, 1939, provides for the creation of refuges for the conservation of wildlife upon certain leased lands, two-thirds of which shall remain open to public hunting. The proposal contemplates the establishment and maintenance of a large number of Special Wildlife Refuge Projects by sportsmen's organizations, in cooperation with landowners, which would have the same legal protective status as the State's regular refuge system, but to be managed solely by the sponsoring organizations.

While the new plan was not inaugurated until late in August last year, many inquiries were received from sportsmen's groups concerning the provisions and regulations pertaining to the Special Wildlife Refuge Program. Among this group of applicants, thirty projects, totalling 17,958 acres, were established and in operation during the 1939 hunting season. It is thought that many more sportsmen's clubs may desire to enter into agreements with farmers and sponsor such a project, and to learn how they function. If so, information may be secured from any of the following organizations, or the Game Commission, Harrisburg:

DIVISION "A"		Acreage
Dover Fish and Game Association, Dover,		
P. E. Rentzel, Dover Twp., York County	223	
Dover Fish and Game Association, Dover,		
John F. Henry, Dover Twp., York County	130	
Snow Suit Rod & Gun Club, York, R.D. #3,		
J. Ambrose Lenker, Windsor Twp., York County	98	
Royersford Hunting & Fishing Assoc., Royersford,		
F. D. Peoples, Up. Providence Twp., Montgomery County..	113	
Point Phillips Rod & Gun Club, Bath, R.D. #1,		
W. L. Cummings, Moore Twp., Northampton County.....	120	
Oley Fish & Game Association, Oley,		
F. L. Shade, et al., Oley Twp., Berks County.....	158	
Steelstown Gunning Club, Annville,		
Roy E. Blanch, E. G. Shuey, N. Annville Twp., Lebanon Co.	288	
DIVISION "B"		
Frackville Game & Fish Association, Frackville,		
Mrs. S. M. Kaemmerling, New Castle Twp., Schuylkill Co. . .	5,000	
DIVISION "C"		
Canton Rod & Gun Club, Canton,		
Robert Krise, Lamar Steers, Canton Twp., Bradford Co. . .	150	
Northumberland Local Tri-County Sportsmen's Asso., North-		
umberland, Mertz Bros., Point Twp., Northumberland Co. . .	10	
Towanda Gun Club, Towanda, D. L. Horton, Arthur Nickeson,		
Sheshequin Twp., Bradford County	90	

DIVISION "D"	
Huntingdon County Game, Fish & Forestry Asso., Inc., Hunt-	
ingdon, L. A. Lininger, Juniata Twp., Huntingdon County	500
Elliottsburg Rod & Gun Club, Elliottsburg, A. L. Reisinger,	
G. E. Briner, Spring & Saville Twps., Perry County	400

DIVISION "E"	
Roulette Fish & Game Club, Roulette, Gray Chemical Co.,	
Roulette Twp., Potter County	7,000
Oswayo Valley Rod & Gun Club, Shinglehouse, Earl Hastings,	
et al., Sharon Twp., Potter County	601
Spring Mills Fish & Game Asso., Spring Mills, H. M. Shrech-	
engost, Gregg Twp., Center County	39
Punxsutawney Sportsmen's Club, Punxsutawney, M. C. Sutter	
Perry Twp., Jefferson County	400
Henderson Twp. Outdoor Asso., Stump Creek, O. M. London	
Est., et al., Henderson Twp., Jefferson County.....	201

DIVISION "F"	
Tidioute Bucktails, Tidioute, Nef Brothers, Triumph Twp.,	
Warren County	480
Tidioute Bucktails, Tidioute, Mrs. Fred Anderson, Oscar	
Johnson, Southwest Twp., Warren County	295
Rutler Co. Hunting & Fishing Club, Butler, Mrs. Edith McCall,	
Jefferson Twp., Butler County	130

DIVISION "G"	
Green Twp. Fish & Game Asso., Starford, John Lamantia,	
Green Twp., Indiana County	80
Larimer Sportsmen's Asso., Larimer, Box 82, Leger Brothers,	
N. Huntingdon Twp., Westmoreland County	241
Larimer Sportsmen's Asso., Larimer, Box 82, Carmine Bilott,	
N. Huntingdon Twp., Westmoreland County	86
Bagdad District Sportsmen's Asso., Leechburg, R.D. #1,	
J. S. Finch & Co., Gilpin Twp., Armstrong County.....	298
Truxall Sportsmen's Asso., Apollo, R.D. #2, Westmoreland	
Mining Co., Bell Twp., Westmoreland County.....	188
Crucible Sportsmen's Asso., Crucible, Crucible Fuel Co.,	
Cumberland Twp., Greene County	99
Larimer Sportsmen's Club, Larimer, N. J. Klassen,	
N. Huntingdon Twp., Westmoreland County	60
Stoystown Sportsmen's Asso., Stoystown, Somerset County,	
Commissioners, Quemahoning Twp., Somerset County	130
Meadow Lands Sportsmen's Asso., Meadow Lands, William	
Dragan, S. Strabane Twp., Washington County.....	350

Total Acreage17,958

THE PENNSYLVANIA GAME FOOD PLOT MIXTURE

(Continued from Page 3)
the amounts shown for each 100 pounds of mixture:

Broom Corn (Dwarf Japanese) ...	20 pounds
Sorghum (Early Amber)	20 "
Sudan Grass	5 "
Buckwheat (Japanese)	8 "
Sunflower (Small Branching type) 10	"
German Millet	10 "
Japanese Millet	10 "
Broom Corn Millet (or Hog Millet) 5	"
Kaffir Corn (Early Kaffir Corn	
Variety)	10 "
Rape (Dwarf Essex)	2 "

The Game Commission has been doing everything possible to develop an extensive program of food and cover planting on the State Game Lands and Game Refuges. If the work is to be expanded on privately owned lands, it will be necessary for sportsmen and landowners to cooperate by making themselves responsible for providing better conditions on particular game areas. Many organizations and individuals have been quite active in this respect in the past, and splendid results have been obtained. However, it

is necessary to secure the cooperation of more clubs and individuals who are willing to



Photo courtesy John H. Craig
Pa. Game Food Plot Mixture planted by Slatington
Skeet and Sporting Association.

direct their efforts toward this problem every year. One way to assist is by procuring some of the seed mixture and planting one or more plots for game food. It is to be hoped that we can again this year report a hearty response in game food planting.

Clubs and individuals can derive a lot of satisfaction from planting wildlife food plots, helping them grow, and then watching the seed disappear when it is consumed by the birds and animals at the time of the year when it is needed most.

When power companies in all sections of the country reported 12,000 cases of disrupted service in two months, it was apparent something unusual was wrong, and it did not take long to find the answer; birds were short-circuiting power lines for Pascoag, R. I., to Independence, Ore.

Apparently the birds were alighting on the top of the transformers and pecking at the bronze fittings, unwittingly committing suicide and, at the same time blowing out the fuse on the farmer's electric system.

FOX HUNTING NOTES

THE historic New York Hound Show was held recently at the Squadron A Armory, Madison Avenue at 94th Street under the auspices of the Masters of Foxhounds Association and the National Beagle Club. This year it was held for the benefit of the Hunt Servants' Benefit Foundation, a most worthy charity which aids hunt servants and their families. The show originated at the old Riding Club just off Fifth Avenue. The 1939 record was broken with over four hundred and fifty hounds entered.

Mr. C. Wadsworth Howard, former M.F.H. of Fairfield-Westchester was again Chairman of the show and had the cooperation of a committee consisting of Mr. James W. Appleton, M.B., president of the National Beagle Club; Mr. Edward H. Carle, former M.F.H. of the Smithtown Foxhounds and chief steward of the show; Dr. Howard D. Collins, former M.F.H. and former Chairman of the show; Mr. Anderson Fowler, joint M.F.H. of the Essex Foxhounds; Mr. Richard V. N. Gambrill, M.B. and secretary of the National Beagle Club; Mr. Harry T. Peters, joint M.F.H. of Meadow Brook; Mr. J. Stanley Reeve, Mr. W. Plunket Stewart, M.F.H. of the Cheshire Foxhounds and Mr. J. Watson Webb, M.F.H. of Shelbourne.

The judges were Daniel C. Sands, M.F.H. of Middleburg, for American Hounds; Harry T. Peters, M.F.H. of Long Island, and Robert E. Strawbridge, of Bryn Mawr, for English; Chetwood Smith, of Boston, for Crossbred; J. Stanley Reeve, of Philadelphia, for Welsh; Harry T. Peters, Jr., of Long Island, for Harriers; Frank B.

« « By W. NEWBOLD ELY, Jr., M. F. H.

Carter, of Weston, Mass., for Bassetts; and Bayard Tuckerman, of South Hamilton, Mass., for Beagles.

The chief awards were as follows:

American Hounds—Ch. dog, Essex Fox Hounds' Valiant; ch. bitch, Essex Fox Hounds' Essex Heresy.

English Hounds—Ch. dog, W. P. Stewart's Cheshire Foxhounds' Cheshire Warrior; ch. bitch, W. P. Stewart's Cheshire Foxhounds' Cheshire Guilty.

Crossbred Hounds—Ch. dog, Meadow Brook Hounds' Meadow Brook Factor; ch. bitch, Meadow Brook Hounds' Gleesan.

Welsh Hounds—Ch. dog, Shelburne Foxhounds' Shelbourne Guardian; ch. bitch, Shelburne Foxhounds' Shelbourne Guilty. Best either sex (hounds eligible for entry in Welsh Hound Association stud book), Lord Davies' Gipsy.

Harriers—Ch. dog, Monmouth County Hunt's Monmouth County Vulcan; ch. bitch, Monmouth County Hunt's Monmouth County Vanity.

Bassetts—Ch. dog, Brookdale Bassetts' Stanco Carlton; ch. bitch, Bijoux Basset Hounds' Bijoux Turquoise of Banbury.

Beagles—Ch. dog (13" and under) Foxcatcher Beagles' Pioneer Skippy; ch. bitch (13" and under) Foxcatcher Beagles' Merry Belle Hicks; ch. dog (13" and not exceeding 15") Foxcatcher Beagles' Foxcatcher Messenger; ch. bitch (over 13" and not exceeding 15") Foxcatcher Beagles' Master Key Nuggets.

FEDERAL AID TO FUR PROGRAM

(Continued from Page 7)

progress and in a recent report issued the following major premises which are based on actual field work conducted by the Federal Aid workers. These premises which will bear examining by all of us are:

(1) "The average farmer in Missouri will accept responsibilities for the custodianship of wildlife on his farm, and for reward wants only to be protected against unauthorized trespass, over-shooting and other abuses.

(2) The average farmer will adopt simple modifications of farm practices to improve the environment for wildlife, provided his property rights are not abused and provided practical procedures are explained to him in simple terms.

(3) Lack of water is the outstanding major deficiency in this state. That has been emphasized by extreme drought conditions starting in July. The drought, however, has served to stimulate interest among farmers in building small ponds, and the Commission has taken advantage of that situation by advocating a pond building program and offering to loan scrapers to conservation groups which have made arrangements with farmers for the construction of at least ten ponds.

(4) Lack of winter cover is another major deficiency, second only to lack of water. This is being corrected in part by including in the plan of management for the cooperative areas being established a provision under which the farmer cooperators agree to avoid unnecessary burning of hedge rows and fence rows.

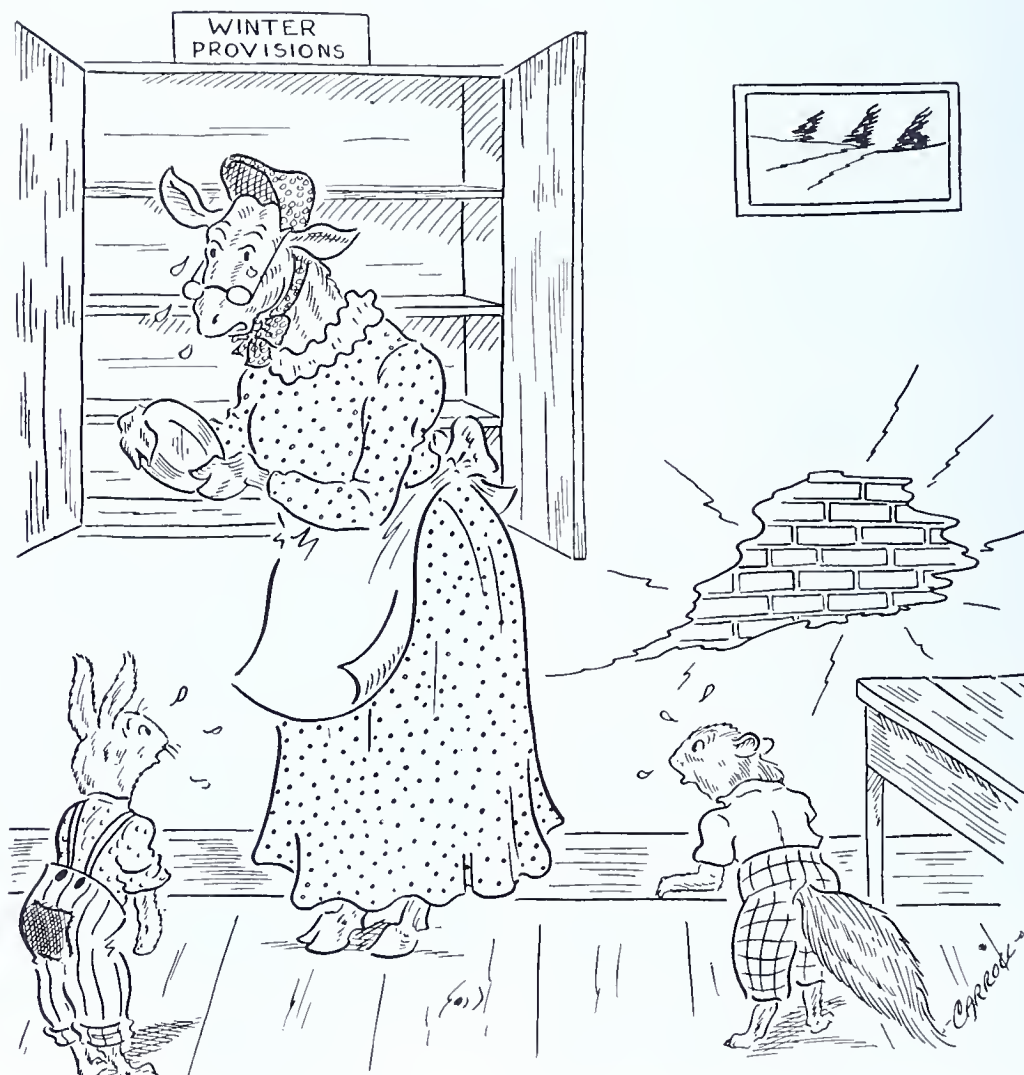
(5) As a rule, the food supply for wildlife is adequate in Missouri, thanks largely to the remarkable increase in area planted to lespedeza during the past ten years. The food supply, however, is often not in the best relationship to cover and water. That deficiency is being corrected in part by the distribution of lespedeza seed by the Commission for planting in narrow strips next to cover, and by selecting locations near cover for the construction of ponds under the pro-

visions of the cooperative pond building program."

The Missouri studies serve to emphasize that **wildlife restoration practices must be based on practices which conserve water as well as soil.** [In view of local drought conditions, we in Pennsylvania would do well to adopt some of Missouri's pond-building enthusiasm.]

Oklahoma: Here the major program is to construct a cover type map for the state, ascertain the relative abundance of important game and fur-bearing animals, and determine measures of overcoming limiting factors.

North Carolina: Lakes are being constructed in the Sandhills of Richmond County where it is planned to stock the now rare (Continued on Next Page)



THE HUNTERS OF TOMORROW

(Continued from Page 5)

if hunting is to be continued year after year in a big way. He will realize that each hunter is entitled to consideration in his special line of sport, whether it be raccoon hunting with dogs, bear hunting, groundhog hunting, or hunting some other kind of game, fur-bearing animal or vermin.

Our system of Game Refuges in Pennsylvania has now been enlarged to include Farm-Game Projects, and Special Wildlife Refuges sponsored by Sportsmen's Organizations, so that the hunters of tomorrow should be satisfied to spread their hunting out over a number of days because of these hundreds of refuges which will make it possible to kill some game late in the season, instead of wanting to kill large bag limits of game on the two or three opening days of the season.

Good roads will not decrease, but they are continually on the increase. Good roads mean a rapid depletion of our game supply in more ways than one and the hunters of tomorrow should eliminate the present road hunting practiced by so many men and return to the old method of hiking and driving in order to secure their game and to secure the most benefit from a hunting trip. The hunters of tomorrow will learn not to judge the success of a hunting trip by the amount of meat secured. More and more hunters are turning to bear hunting for thrills and for real sport. It is a true fact that the things in life we secure the easiest are the things we appreciate the least. Therefore, we can easily understand why many hunters are tiring of this road hunting and the easy accessibility of game in many sections and are turning to bear hunting—something difficult—for real sport.

The hunters of tomorrow must learn courtesy if they hope to have happy hunting grounds on which to hunt. Maybe it would be beneficial to all of us to take lessons in courtesy from those about us who are practicing courtesy. It costs so little to be courteous, but courtesy pays mighty big dividends.

And now just a word about the happy hunting grounds of tomorrow. It is really alarming about the number of trespass signs that are increasing in many of our counties. By practicing courtesy, by considering the wants of the farmer and his protection, the hunters of tomorrow will succeed in opening to public hunting many thousands of acres of land that are now closed to hunting. Posters of the type shown in connection with this article will be secured and posted in larger numbers than ever before and closer cooperation between the sportsmen and the farmers is bound to exist.

The safety zone signs used on our Farm-Game Projects have made the farmers safety zone conscious. Many Sportsmen's Organizations have realized this fact. Others will also want to do everything possible to cooperate with the Game Commission and supply safety zone signs to farmers who request them and who will open their land to public hunting because such signs have been posted and such protection accorded to them.

The happy hunting grounds of tomorrow will, therefore, be the State Game Lands, State Forest Lands, and the vast areas of privately owned land that will be opened to public hunting because of closer cooperation between the hunters and the farmers of tomorrow.

Carolina beaver. These lakes will in addition benefit other fur-bearers.

Maine: The 2500 lakes and ponds in Maine are already productive of many waterfowl and fur-bearers. But Maine feels that the production can be stepped up in certain waters. They are studying the possibilities and have already begun development work.

Alabama: Back to where it is warmer

now, we find that Federal Aid workers are studying the management of many fur-bearers, among which are foxes, opossums, raccoons, muskrats, mink, and otters. The distribution and relative abundance of many of these animals has been worked out.

New York: This sister state is acquiring seed stock refuges which are designed partially to benefit fur-bearers.

Texas: This massive state is so large that it keeps ten Federal Aid men really going to solve many of the hitherto unanswered questions about wildlife. Fur-bearers are being studied. In several good muskrat marshes in Chambers, Jefferson and Orange Counties, it was found that 5-7 muskrats were caught per acre in 1937. Dredging of marsh lands is reducing the muskrat range.

Delaware: The people next door are conducting a monthly game census and found that skunks were increasing. More skunks than rabbits have been killed on the highways this past season. Publication on a five-year study of the muskrat is in the offing.

Other states that are directing some of their Pittman-Robertson funds toward studies of the fur-bearers are **Kentucky, New Hampshire, and Virginia.** In certain cases, the studies are made only in conjunction with projects dealing with species other than fur-bearers, but wherein fur-bearers have an important connection.

We feel that this geographical swing about the country will be as enlightening to others as it has been to us. After another year or two have passed, the wide benefits of the Federal Aid in Wildlife Restoration program will be more evident, and the exchange of findings among states will greatly increase hopes that the long neglected fur-bearer will have more than a fighting chance.

Correspondence Received

Correspondence from Mr. Andrew Ewart, Carmichaels; Robert H. Mumma, Lititz; Mr. Edward J. Trazyk, DuBois; and Mr. Lawrence Penner, University of Minnesota, has been received since the December issue of the *Game News* was released. Thanks, fellows, your remarks are appreciated. We would like to hear from more of you. Address correspondence to Fur Facts Editor, Pennsylvania Game Commission, Harrisburg, Penna.



RETRIBUTION

THE cold glittering blade seemed to leap with fiendish eagerness to bury itself in the satin smooth throat. But the fist that held the hilt was like a vise . . . as if it was the symbol of revenge itself, and could not be swayed from its predestined course by any mere human sense of mercy. It couldn't be murder, neither was it so much revenge, as retribution.

Little use to think of the idyllic days, now gone, which had seemed all too short . . . abandoning any further hope of financial assistance from home, at the death of his Father, and his senior year starting in September, he had practically given up hope of continuing his studies, when he got a break.

The college had offered him a vacation job as geologist to investigate reports of signs of possible petroleum in the mountainous district of Kentucky. The college president had said: "you are alert and aggressive. Go down there; find yourself a likely spot and build yourself a cabin. Try to make friends with the natives. Above all leave the moonshiners alone and they will leave you alone."

It seemed like yesterday. The long train ride, then over the "thank-you-mams" to the remote mountain hamlet, in an old Model T. The suspicious stares of the inhabitants, then the heavy pack back into the High Country. Building the small log cabin. The busy days of exploring. Mapping geologic formations. The long, lonely evenings. The moments when he would have forsaken it all for a bit of human companionship. **THEN HE MET HER.**

'Twas by a mirror like pool, a grassy glade. It had made him think of the Garden of Eden. He thrilled to such wild beauty. As the weeks went swiftly by, the ecstasy of each meeting doubly compensated him for the long hours of separation. Then the intense desire, the delicate maneuvering to gain her confidence. Her seeming graceful shyness seemed heavenly after the sophisti-

« « « By Lyle L. McMahon

cation of the girls he had known around the campus. Soon he was calling her DOLLY; why not?

Although not a native of these hills, it had been her home since she was a little tike, and what she may have lacked in hard intelligence, she more than made up in loveliness and sprightliness. A true child of the wilderness, and he had promised himself to have her for his very own. The pleasure he felt when some friend came down to visit him. The fun and horseplay they had trying to make room for them all in the little cabin. The evenings of song. How Danny's "tenor" rang so clear through the clear mountain air. A good bunch of fellows having a good time. His boasting of Dolly, later the laughing introductions. Her shy timidity, which had seemed so sweet. The good natured "kidding".

Then the blow had fallen. They had thought him asleep. The spoke of her with derision. Doubted his ability to win her. Cruelly repeated the old "gag" about beauty being skin deep and dumbness being sky high. The coarse laughter when one spoke of his near conquest of her jarred him to the quick. With bitterness in his heart he had silently sworn if he could not have her, no man could. He patiently waited for the morning tryst.

As always, he met her by the glade. She seemed as enticing as always, but he had steeled his heart. She seemed more beautiful as she leapt with the joyous abandon of the wild thing she was. Skillfully she eluded him. Finally he caught her. Her first playful struggles quickly turned to panic as she felt the tenseness of his arms. Slowly his grip tightened on the beautiful throat. Faster the knife descended as he grated with a horrible leer . . . no more will you play fast and loose with other men my deceitful one.

The blade sunk home. There was a gasp, a convulsive shudder and all was still. Then an exultant whisper, "I'm not sorry, you had it coming". I promised the boys to have Dolly Varden trout for supper, and you weigh four pounds if you weigh an ounce.

"While patrolling near State Game Lands 138 I came upon a place in the snow that was covered with rabbit hair. About 10 feet from this spot the hind legs of a rabbit could be seen sticking out of a snow drift. By the tracks in the snow it was evident that a weasel had killed the rabbit. There was a small hole eaten in the head of the rabbit. It was 26 yards from the place the weasel came upon the rabbit tracks to the spot where the rabbit was killed. The next day I passed the place again and the rabbit had been pulled into a hole in the snow. Its head was completely eaten. I set a trap beside the hole in the snow bank and in two hours had the weasel."—Game Land Manager George E. Sprankle, Fayette County.

"Just at dusk one evening this week I observed a downy woodpecker working on an ear of corn placed in an arbor-vitae tree near the porch of the Stone Camp. I was quite surprised, as I did not think that a downy woodpecker would have an appetite for corn. However, several times later in the week I noticed a downy woodpecker, which I presumed to be the same one, working on the corn.

"On Friday, January 26, I caught a ruffed grouse in a box trap set for rabbits and baited with ear corn."—Game Protector David R. Titus, Huntingdon County.

Reports of over one dozen hibernating bears, most of them with cubs, were received from field officers during January. In two instances the animals were sleeping out in the open with no shelter whatever.



Photo courtesy Williamsport Grit

Hibernating bear found sleeping in open. Ray Persun, of Allenwood, came across the animal while running his trap line. Later the presence of a photographer and two companions awoke the animal which up and ambled off. In a cavern nearby was a mother and several cubs which could be heard whining.

DEAR EDITOR

(Continued from Page 13)

are so important that they should be discussed only by known authorities. What's next? What're those?

SECRETARY—They're all letters from many of our readers about the editorials and other articles in last month's magazine. They all want you to publish their letters.

EDITOR—Wish I could. I'd really like to have room in our Mail Bag Column for a "Letters from Readers" department. Maybe some day when we have a lot more readers, and our budget is increased, we can manage it. In the meantime write 'em each a letter, telling 'em we appreciate their reactions, and enjoyed reading their interesting letters, but that space does not permit us to publish such letters at the present time. Remind 'em we have a lot of readers who also like to write and we just don't have the space under present conditions.

SECRETARY—Maybe I'd better get at these if you want them to go out tonight.

EDITOR—All right. I'll dictate some more.

Dear Mr. Zither (into the dictaphone): This will acknowledge your very interesting letter of recent date. We're sorry you are in disagreement with certain phases of the Commission's program.

However, you can scarcely expect us to accept your point of view for publication. Please remember that Game News is the official publication of the Game Commission. In that capacity, the magazine naturally must reflect the policies of the Commission. Neither you as a reader, nor I as the editor, have any right to promote personal opinions in a magazine that is financed by the sportsmen as a whole. Under these circumstances, we cannot accept for publication your article which is in direct opposition to this policy.

Dear Mr. Sniffkins: We regret we are unable to accept for publication your personal hunting experiences. Please understand this rejection implies no lack of appreciation for your experiences. Since all readers have had

unusual hunting experiences at one time or another and since many of them have diaries and personal letters concerning them it would be impossible for us to publish all of them. The same thing's true of pictures of game kills. We can use only those good ones that happen to meet a timely issue, or as fillers when space permits.

Dear Mr. Proudfather: We certainly agree with you that your boy is one of the handsomest lads we have ever seen, and that he certainly looks every inch a hunter. We would like very much to publish his picture in Game News but with thousands of youngsters now going afield we do not feel we can extend recognition to any one particular boy if we can't give the same publicity to all. We sincerely hope this good looking boy grows up to be a big, handsome, loyal and understanding man—just like his sportsman dad, a man who—

(Editor's voice continues on and on as the curtain falls.)—Adapted and revised from "Foreign Service" Magazine.

CORRECTION

That part of the article on the Passenger Pigeon on Page 8 of the February issue beginning with the sub-title "The Passing of the Passenger Pigeon" should be credited to H. P. Ijams of the Tennessee Wildlife Federation with acknowledgment to Robert W. Swatts of the same organization for sending Mr. Ijam's notes to us.

WILDLIFE SHOOTS

During the week starting March 17, 1940, rifles and shotguns will be blazing away all over the land. Not at birds and animals will these weapons be aimed, but at targets and clay pigeons. The cause for all the commotion is the Third Annual National Wildlife Restoration Week. To celebrate this nation-wide event, skeet, trap and target

matches will be held by rifle and gun clubs from Maine to California.

These shoots, will be sponsored by the National Wildlife Federation, which will present a special Restoration Chevron to every shooter and Honor Award Chevrons to the winners.

Last year more than a thousand honor awards were presented to participants in matches held by 170 clubs in 37 states. The turnout is expected to be even greater this year.

Jack Benson, Wildlife Agent and veteran outdoors man of the Alaska Game Commission, recently found two bull moose battling with their antlers locked. Benson headed for McGrath, 130 miles away, where he obtained ropes and saws. Three workers accompanied the agent on his return trip. The animals were still locked together. Risking the

danger of being gored by the maddened bulls, the rescuers approached the animals and lassoed them. While two men held the ropes taut, Benson and an aide sawed off part of the antlers. As soon as the horns were cut through, the men jumped clear of the animals to avoid attack. Nevertheless, the larger bull rushed his benefactors. They needed no invitation to scamper to safety.

As of February 1 the Titusville Sportsmen's Association established a bounty of \$2.00 each for all red foxes taken within an area of ten miles of that town and probated before Deputy Game Protector Donald Miller. The bounty will remain in effect until the fund set up by the association which approximates \$50.00 is exhausted.

Now is the time to clean out old bird boxes and to erect new ones. Old boxes should be sprayed with some effective non-odorant antiseptic. The joints should also be carefully inspected, and if large openings have been caused by warping they should be made weather proof.

The annual report of the National Rifle Association shows 2,181 Senior Rifle and Pistol Clubs and 1,233 Junior Rifle Clubs affiliated with the N. R. A. in 1939. New clubs were organized during the year at the average rate of one Junior and one Senior Club for each working day.

"The deer are feeding exceptionally heavy on the cuttings on Game Lands No. 30. In one instance a cutting was made where there were no deer signs at all. The following morning there were 11 deer eating the soft maple ends. They seem to realize what the cutting is for, and come to investigate."—Game Land Manager Paul Narby, Cameron County.

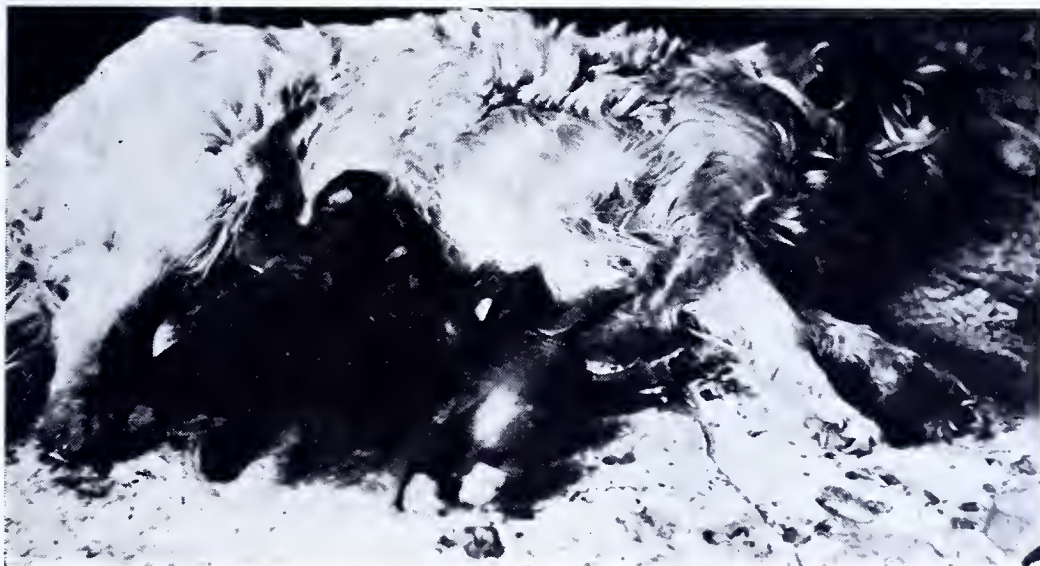


Photo by Game Protector John Lohmann

This setter, which just weaned her own pups, was a welcome foster mother to three little bear cubs found by Grant McKean, of Shohola Falls, while he was gathering water cress. He heard the little fellows whining and found them in a shallow depression. When the mother did not return they turned the very cold little creatures over to Game Protector John Lohmann, who located a foster mother for them.

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Photo by Geo. P. Millington

This hen pheasant struck and killed itself on a cable at about the same spot that a cock pheasant killed itself in the same manner last hunting season.

A REVIEW
AMERICAN MAMMALS

By W. J. Hamilton, Jr., Cornell University

In this distinctive new book the author offers an entirely new approach to the study of mammals. Unlike other books dealing with mammals, which give specific accounts of each species, the present work is an ecological approach, illustrating how mammals are adapted to their environment. Thus the book is designed to acquaint the student with the characters, distribution, habits, and economic relations of North American mammals. The part dealing with economic relations brings together all the recent advances in control together with a full discussion of the economic and esthetic value of mammals.

Among the topics discussed in detail are ancestry, adaptations, food, storage, reproduction and early life, home of mammals, hibernation, migration, behavior, distribution etc. Price \$3.75.

COWBIRD PROTECTED

- Q. Is the cowbird a protected bird?
Miss G.E.—Paoli, Pa.
- A. Yes. The cowbird is now protected all times in Pennsylvania. While it may have some bad habits, its principal food consists of insects and weed seeds and the bird is mainly beneficial.

* * *

SKUNKS IN WINTER

- Q. Do skunks hibernate?
R.B.—Ambridge, Pa.
- A. The skunk is considered a semi-hibernating animal. The females are inclined to stay under cover in severe winter weather, but trappers catch both male and female skunks all winter, so that it cannot be said that even the female is strictly a hibernating animal. The male apparently ventures out at any time, regardless of the weather.

When the telephone went out of commission in all parts of the Hershey Zoo, Hershey, Pa., and stayed out for two days, linemen searched frantically for the trouble. They finally found that two live beavers being held in the basement of the Carnivore building for subsequent use of the Game Commission at the Farm Show had gnawed their way through the telephone wires, copper insulation, housing etc., putting the line completely out of service.

for several feet around. I have seen plenty of turkey signs since the snow and have several flocks coming to feeders. Game does not appear to be suffering much from the snow and cold because I have observed in many places where the turkeys, squirrels and grouse have been feeding on natural food very near to feeders where there was plenty of corn."—Game Protector Harold Russell, Perry County.

"Since the snow there are plenty of deer signs and plenty of evidence that deer are not scarce. In places they have been feeding under oak trees and have the leaves torn up

Chas. H. Nagle, well known Allentown sportsman, shot a semi-wild house cat recently which weighed 26 lbs. It was crossing a road with a full grown rabbit in its mouth.

Hungry birds are actually attacking and killing cattle in southwest Kansas, according to farmers in that area. The birds, mostly starlings, drill along the animals' backbone



Courtesy Evening Star, Washington, D. C.



*Here are three
Conservation Stamps for 1940*



HELP CELEBRATE
WILDLIFE RESTORATION WEEK

March
17th
to
23d



March
17th
to
23d

